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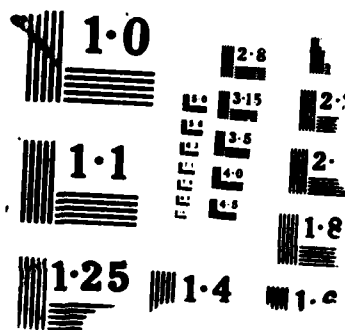
THE UNITED STATES ARMY LOW BACK PAIN WORKSHOP(U) ARMY  
ENVIRONMENTAL HYGIENE AGENCY ABERDEEN PROVING GROUND MD  
R PETZOLD JUL 86

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THE UNITED STATES ARMY

LOW BACK PAIN WORKSHOP

Presented at the U.S. Army Environmental Hygiene Agency  
Edgewood Area  
Aberdeen Proving Ground, Maryland  
15-17 July 1986

By  
Army Safety, Personnel and Medical Commands

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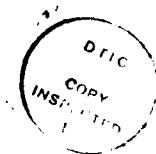
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**SECTION I. GENERAL**

1. The Low Back Pain Workshop was conducted under the auspices of Mr. Lewis Walker, The Deputy for Safety, Health and Environment, Assistant Secretary of the Army (I&L). The Office of The Surgeon General, U.S. Army, was the lead agency, but the conference was a joint effort with the Civilian Personnel Center and the Army Safety Center.

2. The purpose of the workshop was to share current information on back pain issues and bring safety, health, and personnel experts together to find solutions to the problems. The objective as stated by the Executive Committee is: To develop policies and programs to support the Presidential and SAFE Army 1990 goals to reduce claims and costs associated with low back injuries. This will include efforts in the areas of education, prevention, and management.

3. The Executive Committee was formed from representatives from the Civilian Personnel Center, Army Safety Center, and the Army Medical Department who were participating in the workshop and who had assignments in the areas of control of back injuries and claims.

a. The Executive Committee was made up of the following: MAJ J. Robert Wrinkle, Chief, Installation Safety Branch, U.S. Army Safety Center; Robert A. Becker, Supervisory Personnel Management Specialist, U.S. Army Personnel Center; Rosalene Graham, Safety and Occupational Health Specialist, U.S. Army Safety Center; LTC Robert W. Petzold, MD, Occupational Medicine Officer, U.S. Army Environmental Hygiene Agency; LTC Douglas A. Kersey, Chief, Physical Therapy, Ireland Army Community Hospital; Leon Buchanan, Personnel Management Specialist, U.S. Army Civilian Personnel Center.

b. The Executive Committee met regularly during the workshop to develop goals for the committees and to evaluate progress.

4. Two committees were formed to accomplish the task: The Committee on Tertiary Prevention and Case Management, LTC Petzold, Chairman, and the Primary Prevention and Training Committee, LTC Kersey, Chairman.

a. Workshop participants were allowed to chose which committees they would participate in. Each committee actively developed lists of problems based on the workshop presentations, discussions, and personal knowledge. Then the committees developed recommendations to solve each problem. Finally, a joint session of all workshop participants carefully reviewed the workshop findings and recommendations until general unanimity was achieved.



b. The committee participants were:

Tertiary Prevention

Leon Buchanan  
Personnel Management Specialist  
U.S. Army Civilian Personnel Center

Sandra Fitzler, R.N.  
Coordinator of Occupational Health  
Services Beverly Hospital  
Centennial Health Center

Brenda L. Gates  
Vice President  
Health Care Systems

Fred Hubley  
Personnel Management Specialist  
U.S. Army Corps of Engineers

Larris J. Marks  
Personnel Staffing Specialist  
U.S. Army Forces Command

Janet M. Ruff, R.N.  
Nurse Consultant  
U.S. Army Environmental Hygiene Agency

Commander Regis Turocy  
Chief, Physical Therapy  
Bethesda Naval Medical Center

LTC Vincent R. Sherman  
Office of the Assistant Secretary of the Army (I&L)

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Robert A. Becker  
Supervisory Personnel Management Specialist  
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Richard A. Berger  
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Dennison Manufacturing Company

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Safety and Occupational Health Specialist  
HQ U.S. Army Forces Command

Lester Smith  
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National Guard

Robert H. Jones, M.D.  
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Eastman Kodak

COL Joel C. Gaydos, M.D.  
Occupational Health Consultant  
Office of The Surgeon General

Rosalene Graham  
Safety and Occupational Health Specialist  
U.S. Army Safety Center

Kathy T. Pinkos  
Manager, Regional Headquarters  
VISUCOM

LT William S. Quillen  
Physical Therapy Programs Officer  
Health and Physical Readiness Department

Charles L. Welcher  
Safety Manager  
U.S. Army Transportation Center

Frank S. Woodard  
Director of Safety and Occupational Health  
U.S. Army Corpus Christi Depot

MAJ J. Robert Wrinkle  
Chief, Installation Safety Branch  
U.S. Army Safety Center

5. The findings and recommendations of the workshop, while pertaining to the Army low back problem, are general in nature and could apply in many other settings where management of back pain is an issue. The development of specific implementation plans for these recommendations is the future task of the Executive Committee and the offices represented.

6. We wish to thank Mrs. Susan Norman for the excellent job in compiling the manuscript of the workshop and LTC Vincent Sherman of Mr. Walker's office for the invaluable assistance in overseeing administrative and funding efforts.

7. Questions or comments about this document should be directed to HQDA(DASG-PSP-O), 5111 Leesburg Pike, Falls Church, VA 22041-3258, AV 289-0133/0130.

## SECTION II. PRESENTATIONS

## WELCOME AND TASKING OF THE WORKSHOP

Lewis D. Walker

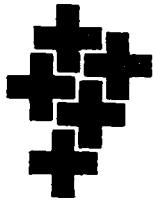
I would like to welcome all of the attendees to the workshop. We contemplated holding it at the Pentagon, but the daily operations run a greater risk of disruption, and we wanted to be able to provide an environment where you can "roll up your sleeves" and tackle the challenges that we have laid out for you.

I want to thank the Army Surgeon General's Office, the U.S. Army Health Services Command, and particularly the Army Environmental Hygiene Agency for hosting this workshop for us. We have a unique gathering of Army safety, medical and personnel representatives along with experts from industry, other federal agencies and our sister services. Each of you has something special to offer, and that is why you were invited.

Three years ago, President Reagan established goals which require a 3 percent annual reduction of injuries and the associated compensation claims from 1984 to 1989. The Army's efforts have achieved some reduction, but we are still short of meeting these goals. In fiscal year 1984 an analysis of the Federal Employees' Compensation Act (FECA) claims data showed 2,620 low back injuries, which was 27 percent of our total lost time injuries. In fiscal year 1985 we had 2,678 low back injuries, which constituted 29 percent of lost time injuries. Since back injuries account for more claims and lost time than any other single category, it is obvious that a successful reduction program could pay big benefits to the Army, to employees and to the American taxpayer. Civilian compensation costs are now over \$100 million for the Army and \$350 million for the Department of Defense.

We know that this is not the first time somebody had the idea that back injuries should be reduced. Some efforts have been undertaken in the past by the Army and by other organizations. Success rates have been variable, but due to the persistent prevalence and occupational impact of this problem, it is safe to say that, as a nation, we have been unsuccessful. Our lack of success in controlling back injuries suggests that the traditional theories on causes and prevention commonly held in the safety and health fields are questionable. What we are asking is that you start with a clean slate and, based on your knowledge and what you will learn here in three days, draft a program with elements and efforts defined to control back injuries in the Army. We are pleased to have Dr. Petzold organizing this effort as we have seen many valuable professional contributions from him.

You are in good hands and you have a real challenge. The task is a large one, but we believe it is not impossible, so let's get to work.



# HCS

*Innovative Medical Monitoring*

Henry L. Feffer, M.D.  
*Director of Medical Research*

## LOW BACK PAIN - VIEW IN 1986

### INTRODUCTION

Until recently most of the decisions relating to the prevention, diagnosis and treatment of low back pain were based on hunches, impressions and anecdotes. It has only been over the past ten years that a limited number of controlled, scientific studies began to appear, first in the Scandinavian literature and more recently in the publications of the English speaking world. Dr. Alf Nachemson of Gothenburg, Sweden, who works closely with us at HCS, has been our conscience during this period and has played a major role in this renaissance. In fact much of what I say today reflects the influence of his basic research and proactive leadership.

### ETIOLOGY

Any part of the spine theoretically could cause back pain but until now most of our attention has been concentrated about the intervertebral disc and its surrounding ligaments since it seems obvious that the mechanical integrity of this physiological shock absorber influences the surrounding structures in many ways. When it deteriorates, stress is transmitted directly to the cartilagenous end plates and facet joints, and the neural canal becomes constricted.

It also should be noted that the nucleus pulposus has no blood supply, being nourished by tissue fluid which circulates through the disc as a result of osmotic forces, gravitational pressure and the pumping effect of movement. Thus, its nourishment improves with activity and is adversely affected by immobilization through bed rest or a spinal fusion. Smoking has also been found to have a negative influence on its metabolism. Without a proper balance of water, solutes, glycosaminoglycans, protein and collagen, degeneration and fissures develop in the annulus, permitting penetration and herniation of nuclear material into peripheral areas which are highly sensitive to both mechanical and chemical stimulation. Irritation of the longitudinal ligaments is normally perceived as referred pain involving the low back, buttocks and thighs; when an inflamed nerve root is compressed, however, the resulting radiculopathy is perceived as pain along with a neurological deficit involving the distribution of the particular nerve root involved.

We now know that the nerve root sleeve permits the circulating endorphins to mediate the pain and reduce the sensitivity; thus the suppression of activity is significant in this respect as well since such a course is known to affect the endorphin level adversely.

Although pain related to osteoarthritis, rheumatic disease, spondylo-lysthesis and various non-mechanical medical problems is usually gradual in onset and unrelated to any particular traumatic event, a superimposed acute back strain is not unusual and inevitably creates a causality dilemma in respect to residuals once the acute symptoms have run their course.



## PREVENTIVE MEASURES

Although theoretically preemployment history, X-rays and physical assessment should be helpful as a means of screening prospective employees and thus reducing the incidence of back injuries, they have in fact been demonstrated to be of little advantage. No doubt a history of prior back trouble is significant but experience has showed that prospective employees are rarely candid in this respect. The literature contains reports of 25,000 sets of X-ray film examined in a controlled fashion and no basis has been found for using these findings to select those susceptible to back pain. The radiation exposure certainly was unjustified.

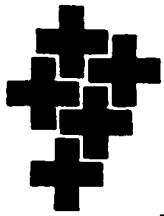
Preemployment strength testing as a means of matching the job to the individual's physique has also been studied and would seem to have some merit; however, the concept has become tangled in a legal thicket in respect to equal opportunity, particularly for the "weaker sex" and as yet industry has to pick up the challenge.

Psychosocial problems are unquestionably a predictor of back trouble on the job but here too risk managers have been forced to tread lightly. There is, however, no question about the fact that a poor performance rating, a pending strike or any other evidence of potential job insecurity is a frequent precursor to a back complaint.

Fitness programs and ergonomic instruction also have great potential value in the prevention of initial back injuries as well as recurrences, and Cady back in 1979, showed that fire fighters with higher levels of fitness, that is cardiovascular endurance, had an incidence of back injuries nine times lower than the least fit firefighters.

Although as of April 1984, about 700 different educational programs were available to protect people from back pain hazards, the incidence of related symptoms continues to rise as do costs and disability. The problem is that employee retention from such instruction is short term and constant reinforcement of these ideas becomes quite expensive. In addition the message must reach out to the entire work force, only 2% of which will report a back injury per year; that is, 20 per 1,000 and only 10% or 2 of these per 1,000, will be the serious cases which make up 80% of the costs. Constant surveillance and training of 1,000 workers for possible benefit to two of them just does not seem to be too cost effective to the hard nosed administrator.

Thus, even though prevention of back pain should diminish the risk of disability, the feasibility of this approach is questionable. With this in mind it seems that our greatest opportunity to reduce the impact of back problems on our society probably lies in the control of the quality of care administered so as to reduce the risk of long term disability. HCS has built a monitoring program based on this concept and Dr. Stanly Bigos in Seattle, Washington, has emphasized the importance of focusing in on the prevention of back pain disability rather than the treatment of back pain per se.



## DIAGNOSIS

We can only verify the patho-anatomic cause of back pain in 15% of the patients. The other 85% can at best be designated soft tissue injuries or musculoskeletal dysfunction. Since most people recover rapidly anyway, verifiable diagnoses are rarely made. In only one of 2,400 cases does a plain X-ray reveal a finding not suspected from a thorough history and physical. These no doubt are startling facts to the uninitiated; however, when the issue is forced in the search for a mandatory diagnosis, trouble begins. Let's face it, the average blue collar worker thinks his doctor is God and if his doctor is worried about a serious injury, the problem must potentially be a disabling one requiring the best that modern technology has to offer:

Routine X-ray--helpful in one out of 2,400 cases.

CAT scan--scientifically shown to be positive in 35% of normal people.

Myelogram--positive in 24% of normal people.

EMG--with an extremely low rate of inter-observer reliability.

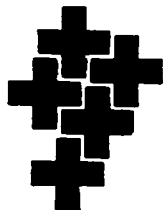
Thermogram--of no scientifically proven value.

MRI--of great potential but as of this date being used without a scientific data base.

In effect these tests can be of great value in confirming clinical impressions but are treacherous when used as a screening tool.

## TREATMENT

Dr. Nachemson has stated that it is difficult to establish effectiveness in prospective randomized trials in a disease where the natural history is so good. Ninety percent of acute back injuries can be expected to return to work within six weeks and 60% are already back in one week. Prospective randomized trials have demonstrated effectiveness of pain suppression and return to work with both a few days of bed rest and educational back programs; however, many other currently used modalities such as traction, Williams flexion and extension exercises, X-ray therapy, short wave therapy, ultrasound therapy, muscle relaxants, biofeedback programs, anti-inflammatory drugs, injections and manipulations of various types have failed to demonstrate any significant effect on the natural history of return to work. When it comes to chronic low back pain, there hardly exists any single properly randomized study demonstrating positive effects from any single type of treatment.



Over the past two years, the Industrial Commission of Quebec, Canada has sponsored a multi-disciplinary working group to analyze the data from a bibliography of some 700 scientific articles and the full report will be published in SPINE later this year. The resulting charts evaluate every known treatment modality and diagnostic test by six categories: based on customary use, therapy contraindicated, proven effective by randomized study, proven by controlled non-randomized studies, not appropriate, no proof of effectiveness and not regularly used.

The appropriateness of each treatment was further broken down into three time frames; that is, less than a week, between one and seven weeks and seven weeks or longer. As would be expected, about two-thirds of the treatment modalities were found to be based on customary use. Most of the others were of unproven effectiveness or contraindicated. The situations where the treatment had been proven effective by randomized studies were limited to bed rest in the acute phase and discectomy where root compression was confirmed--11 positive out of some 2,000 possible correlations.

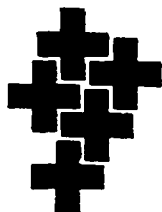
The potential value of diagnostic tests were equally discredited, the anecdotal basis of customary low back care leading to wide variations in practice patterns. The laminectomy rate in Los Angeles is twice what it is in Boston. In the United States it is four times what it is in Sweden and ten times what it is in Great Britain.

This variations phenomenon has had high visibility throughout American medical practice over the past few years, particularly in respect to cost containment efforts. Low back pain, however, unquestionably leads the list with a relative lack of a scientific base for customary treatment, particularly in the field of conservative management. The status quo, though, is currently being challenged on several fields and in 1986, evolving studies should have considerable impact on established methods of low back care.

Probably the most important concept gaining momentum at this time relates to the adverse psychological and physical effects of inactivity. To encourage hopelessness about a condition which will usually get well anyway without treatment is bound to be counterproductive. Obviously, severe acute pain has to be catered to but beyond that, as already noted, injured tissue about a mobile joint will heal much quicker with graduated activity. The patient becomes more comfortable with an elevated endorphin level and the mineral content of bone is preserved since a 6% calcium depletion may be expected from only two weeks on absolute bed rest. The depressive effects of medications such as Valium and Percodan can be avoided along with the potential risk of drug dependency.

The Volvo Plant in Sweden has been conducting an interesting study in this respect. All employees with back injuries who have not returned to work within six weeks are screened. About 15% were found to have mechanical or neurological lesions which mandated specific intervention. The others were randomly assigned to one of two study groups.





In the first, nothing was done and they continued under the care of their private physician. The patients in the second group were managed in the following way: first, a job evaluation was made and the job site inspected so that necessary adaptations could be made in respect to early reassignment. Secondly, the employee was started on an intensive reconditioning program three times a week, during which the reactivation process was tailored to the particular job he would return to, and he was sent back to work as soon as he was able. At last count, 70 employees had been enrolled in each category. Seventeen of the treated group are back to work, whereas only four in the control group have returned to productive occupational activity.

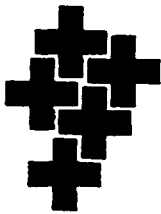
Even in the chronic failed back patient, reconditioning and reactivation has been found to be highly productive. Dr. Tom Mayer and his colleagues at the University of Texas took a group of 66 chronic back losers, all with at least one prior unsuccessful operation and used an objective assessment methodology to follow an intensive rehabilitation effort of 56 hours a week for three weeks. Eighty-five percent returned to work. He found that the ability to measure functional capacity was the key to conservative management since pain complaints in this population usually were unreliable and radiographic imaging is irrelevant and misleading.

In any event, regardless of whether the patient is acute or chronic, there seems little disagreement that there absolutely is no scientific basis for the passive physiotherapeutic modalities which are currently in vogue. They are of no demonstrated benefit and in addition to creating an unnecessary cost, only serve to convince the often impressionable patient that the problem is more serious than it actually is.

#### SURGICAL INTERVENTION

The syndrome of spinal nerve root entrapment is undoubtedly an important surgical indication; however, for the operation to be successful, there must be no ambiguity about the diagnosis. There is no excuse for an "exploratory laminectomy". Disc herniation is a self-limited disease and can only be proved by correlating physical findings such as a neurological deficit and positive tension signs with confirmatory radiographic data. It is only rarely an emergency; that is, when a rare cauda equina compression syndrome exists. Oral or epidural steroids are effective in about 40% of the cases and are certainly worth a trial even in the presence of a foot drop or other neurological deficit.

Surgery should be performed to relieve leg pain, not back pain; and if necessary, has best results when performed within three months of the onset of sciatica. It should be remembered, however, that disc herniation is a self-limited disease and if the pain can be controlled reasonably well with conservative measures, and the patient returned to modified duty, the end result in three or four years will be the same with or without an operation. If a disc is to be removed, however, a limited discectomy appears to be the treatment of choice. The alternative, chemonucleolysis, had some popularity a few years ago but the results are not as good as with the operation and serious neurological complications can occur.



The popularity of spinal fusions is hard to justify. There is no logical justification for the procedure without radiological demonstration of instability; that is, in excess of three millimeters of translational or ten degrees of angular motion. In spite of this, the rate these procedures have been performed over the past six years has almost doubled and one wonders whether it is the patient or the doctor who is unstable.

Other than for recurrent disc herniation, the value of any repeat surgery should seriously be questioned. The second operation can expect a 30% success rate, the third 15%, and the fourth is bound to make the patient worse. Remember, there is only one good chance and it is a good general rule to wait about two months before even discussing the matter with the patient; then only operate to relieve the pain.

Lumbar canal stenosis is an entirely different story. Other than for an occasional case of a congenitally constricted canal, most of these occur in the older age group and are secondary to degenerative changes. There is probably not enough surgery being done for this condition since many seriously incapacitated elderly people could no doubt be made self-sufficient by such an operation; however, it has to be done correctly with the decompression extending well out into the lateral recess.

Spondylolysis/spondylolysthesis usually can be managed conservatively with a job modification; however, in selective cases, a combination of decompression and postero-lateral fusion can be quite gratifying.

## CONCLUSION

In conclusion, I would like to quote Dr. Stanley Bigos again, "there is now evidence that the most plausible and cost effective approach to curbing the industrial back pain problem is to prevent chronic pain disability through the use of proven treatment methods in the early stages of management. Data now indicate we no longer need to overmedicate or over rest our patients to help control their symptoms. Early intervention, with adequate patient education aimed at avoiding debilitation, improving body mechanics, and promoting cardiovascular conditioning, combined with visits to the work site by health care professionals has been proven to reduce disability by 50%. The cost effectiveness of reducing inappropriate care has previously been demonstrated by Dr. Wiesel. Updated information about evaluating patient symptoms and diagnostic procedures now make it easier for the practitioner to avoid inappropriate surgery and more accurately predict treatment outcome".

THE CHELSEA BACK PROGRAM  
A CONTROL PROGRAM FOR LOW BACK PAIN

Richard A. Berger  
Sandra Fitzler

The Chelsea Back Program is a management program to mitigate the result of low back pain. The program was developed out of economic necessity. The employer was a Fortune 500 Industrial Manufacturer of rubber and plastic products, with 20 factories and 5,000 employees. Workers' Compensation Insurance Premiums had skyrocketed. The insurance carrier had threatened cancellation unless controls were implemented. The controls they required included a mandatory lifting training program throughout the corporation, the use of pre-employment back X-rays to screen out the potential workers' compensation back case, and job redesign to reduce or eliminate heavy lifting. Research began with a study of these three recommended approaches.

Pre-Employment Back X-Ray

There is extensive evidence to show that low back X-rays are not an effective control for low back injuries. In a paper published in the American Journal of Occupational Medicine, Stover H. Snook, Ph.D. Ergonomist, Liberty Mutual Insurance Company, showed that just as many injuries were experienced by employers who used medical histories, examinations, and X-rays as employers who used no selection techniques at all. M. Laurens Rowe, M.D., (Kodak) concluded that only about 10% of men who become low back disability problems can be identified at the usual time of hiring by present diagnostic methods including low back X-rays. Additionally, Dr. James Cyriax, founder and developer of the concept of Orthopedic Medicine, London, England, said: "Use X-rays if you have to, but then ignore them." Additionally, the American college of radiologists warns about the significant risk factors.

The conclusion is inescapable -- low back X-rays for pre-employment selection is not a viable tool.

Lifting Training

The Snook Study examined both employers who provided training of safe lifting procedures and employers who did nothing. His findings showed that just as many injuries were experienced by employers who provided training as those who did not provide any training at all.

The results are consistent with those of Dr. J. R. Brown, Manual Lifting and Related Fields, Toronto, 1972, who concluded that "there is clear evidence...that there has not been significant reduction in injuries due to lifting and handling, etc...over the past thirty years when the straight back, bent knees lifting method had been advocated."

It is apparent that the traditional lifting techniques, those taught by our insurance company and most safety engineers, are not an effective back injury prevention program. It is important, however, to recognize the potential value of other types of training procedures.

#### Work Design

Our last of the three traditional methods of treating the back problem is an ergonomic approach of designing the job to fit the worker.

A study of Workers' Compensation and OSHA records was conducted company-wide, covering a 5-year period from 1975 to 1980. Interestingly, the frequency of low back pain was not significantly different, factory to factory. Even in the most highly mechanized factories, low back pain accounted for 25-30% of all reported injuries.

Since the thrust of the Chelsea Back Program is to control the disability and not to prevent the onset of pain, the ergonomic approach was not fully explored.

#### Conclusion

No significant reduction in low back injuries can be attributed to the low back X-ray as a pre-employment tool. Similarly, lifting training offers no solution to the back problem. Redesign of manual lifting tasks appears to be the most effective control measure of the three, and this is only marginally effective.

There is extensive medical evidence to show that the low back pain problem is non-occupational in origin. Degenerative disk disease contributed to approximately three quarters of all back cases...accidents to less than 4%. The back problem is clearly a problem of natural aging.

The Kodak study suggests that there are really two problems. One is intermittent backache which most of us will have at some time or another during our working lives. The other is our response to the backache -- how we will cope with the symptoms. It seems to be this response which determines the degree of disability involved; and, it seems to be in the area of this response that useful steps can be taken to reduce the time lost from work. In other words: We can't prevent backaches, but we can minimize the resulting disability.

## THE CHELSEA BACK PROGRAM

1. We must first sensitize the management staff to the problem. The large majority of the employees who complain of low back pain are not malingerers. Heavy lifting is not a prerequisite for low back pain. Low back pain will occur at sporadic intervals in about 75% of the adult population. Immediate medical attention is required. The management staff must become sensitive to the low back pain issue.
2. There are nearly as many treatments for back pain as there are doctors, from chiropractic approaches through hypnotism and acupuncture. In the vast majority of cases, low back pain will disappear regardless of the type of treatment or lack of treatment, within 5 to 15 days. Effective conservative treatment includes the application of heat or ice and aspirin therapy.
3. The education of the employee as to the nature of low back pain is critical. He/she must be reassured that back pain will decrease, and he/she will be able to resume most activities, including work. This education process is conducted at the time of treatment by medical staff.
4. Short term job modifications may be required for some employees suffering from low back pain. A sedentary employee may require an adjustable chair and footrest. An employee who stands at a machine may also require a footrest. Lifting tasks may have to be restricted for a period of time.

### Payback

In 1980, the four elements of the control program were instituted. The program was carefully documented, and studied over a 3-year period. The results were published in two separate articles in the February, 1983 and July, 1983 issues of Occupational Health and Safety. Prior to instituting this control program, the Workers' Compensation cost for low back injuries exceeded \$200,000 per year. In the three years following the program implementation, the costs were reduced tenfold, averaging less than \$20,000 per year.

## MANAGEMENT OF BACK COMPLAINTS AT EASTMAN KODAK

Robert H. Jones, MD

Thank you Dr. Petzold. A couple of years ago, my wife and I decided to go to Nepal we needed to go trekking before we got too old. One of my medical peers said, "When you go there find out how they lift because I understand there is no low back pain in Nepal." He was correct. There was no reported problem. We discovered a possible reason why: people die at age 43 of tuberculosis and enteric fever and there is no time left over to be complaining about a bad back. After talking with our sherpa in broken English and broken Sherpa, we identified worn out porters in his village that had pain either going down their neck and arms or down their legs, but that wasn't as important as the fact that they had tuberculosis or other problems that were causing their death. It depends upon one's emphasis.

At Kodak, low back pain is our second leading cause of morbidity, as it is everywhere. There is no one policy regarding its management, however. Can you imagine 30 doctors agreeing? or, 200 safety personnel? or, 1,500 supervisors agreeing? We do have nonetheless, a series of health, safety and ergonomic processes on site to help minimize the impact of low back pain problems. The human factors approach in industry was started at Kodak in 1960 and now is an integral part of the process of workplace evaluation. We have a built-in medical department of 200 people who are very close to the workplace. We have an excellent safety department that carries a very good track record. And we have lifetime employees.

My feelings about low back problems are the product of many people to whom I am indebted. The first is Dr. Joseph Barr, who was my boss for many years. He is the doctor who first wrote about the problem of which we speak today. His cardinal paper in 1934 identified the role of the herniated intervertebral disk. One thing he said that stands out is that there is no correlation between the X ray picture and pain. As a young physician looking at the objective evidence of change, it was hard to accept his wisdom which, of course, was absolutely correct.

Secondly, I am indebted to another orthopedist, Dr. Larry Rowe, who is our emeritus orthopedic consultant at Kodak and of whom the folks from Chelsea had kind words this morning. He has been a teacher of mine for the past 13 years. He described the natural history of what we call degenerative disk disease from a detailed study of people through their working lives at the company. He discovered that in about 16 percent of the cases the employee did identify that pain was associated with something done at work. Three studies since then have shown essentially the same percentage. Examination of safety and medical records for a given organization finds that the safety case load accounts for 15 percent of the total number of people with low back pain. If the manager doesn't recognize this, and asks the safety person to account for all episodes, the latter is immediately set-up for failure.

Dr. Rowe also discovered that 70 percent of referred patients eventually showed evidence of degenerative disk disease and only 4 percent had what he could find was true injury. He asked that we put the word "injury" aside. He also emphasized the need to teach the patient. He was a master at teaching the patient the history of his disease, what to expect, and what to do. The results were excellent in his hands. People would come back years afterwards saying "I can handle it because Dr. Rowe told me what to expect." He did something that others of us in the community did not do. We haven't taught at the bedside or in the clinic about low back pain as we do in coronary or diabetic care; and I think we should. The basic principle applies in all three; it's what the patient does about his own care that shapes much of the outcome.

Stover Snook is another to whom I am indebted. We have been working closely with him for 15 years and are indebted for his work describing work loads acceptable to industrial workers, and of the correlation between low back compensable cases and work load unacceptability. I do feel more attuned to that particular approach than to the NIOSH guidelines. That's a whole subject unto itself and I will touch it only if asked.

Dr. Wilbert Fordyce is another model in my life. He is a psychologist; the grandfather of chronic pain programs; from the University of Washington. He taught me much about chronic pain behavior and its management.

Dr. Nachemson has also been one of our models. I would emphasize particularly his emphasis on non-medical aspects of low back pain, what he calls the political or legal issues which clearly appear to affect lost time and medical costs.

Finally, Dr. Wadell, a Scottish orthopedist, has done a signal service in developing elegant strategies to measure the psychological distress associated with low back pain versus the amount of low back impairment. This is a tool that clearly helps identify those who should have pain clinic treatment versus those who primarily need accommodated work.

Then, there are several hundred patients who constantly keep me humble. Also, I feel crescendo pressures from almost every quarter to cure low back pain both within our institution as well as without. Health care groups of all sorts ask for or promise it. Health care aids of one sort or another assume that relief is in sight. And many parties state that correct lifting techniques will decrease morbidity. At Kodak, many programs have been involved, without and (significant) change in morbidity over the decades until about four years ago.

As a result of all these insights, I conclude that there are four or five components to the low back problem.

The first is medical. It is a basic process, a disease process.

Secondly, there are occupational and vocational aggravations, which are of secondary importance. I will provide data, which you may either accept or reject, to support that stand. We find that the aggravation is particularly great in those jobs where the worker earns his keep with his back. If, alternatively, one is paid for using one's hands or head, then the same amount of disease or impairment is associated with much less lost time.

Next, legal and political definitions, in my view, magnify the problem more than medical management can minimize it. Dr. Nachemson has identified, in the article provided us, that varying levels of illness pay have established corresponding rates of illness absence.

Finally, managerial behavior has a lot to do with the outcome. Earlier, I said that low back morbidity remained relatively constant at Kodak until four years ago. Four years ago, we began to feel intense internal pressures to economize. As a result of that, we have decreased the number of lost time days from low back pain by 66 percent in the last four years and this with the same census. If we had a low back program instituted four years ago, I could say, "Look what happened as a result of what we did." But, we didn't. Yet, the number of low back lost time days, at one plant for 30,000 people dropped from 3,200 to 1,200. Secondary to the application of this "administrative antibiotic," the overall illness and injury rates for all persons have dropped by as much as 50 percent. After all, if the employee believes that if he's out sick he may lose

his job, there will be little illness absence. I am stating that with that kind of powerful belief, the reduction in "morbidity" will be greater than any which a medical effort could provide.

To me such forces, which vary from one time to another, will invalidate any sequential studies.

Now, I would like to go over some data. We have in Rochester about 50,000 employees. Plant number 1 has 15,000 employees; it is primarily an apparatus division. People assemble disk cameras, chemical analyzers, copiers and so forth. There is not very much lifting. Plant 2 is our photo chemical production plant, which requires much lifting of chemicals. It's population was 30,000. If there was a significant relationship between the nature of the work and the amount of lost time for low back pain, we should see more in plant 2. But we see identical amounts of lost time. See Table #1.

Now, let's look at another disease entity in Table #2: cumulative trauma disorders which we associate with repetitive motion at the wrist, carpal tunnel, elbow, and shoulder. Here we find in plant 1 about 40 percent more employees with  $\geq 5$  day absence than in plant 2. Furthermore, the lost days are almost double that in plant 2. This suggests to me that low back pain/degenerative disk disease doesn't have a very strong correlation with work, whereas cumulative trauma disorders do.

Next, we did a special study of those two plants, in which we identified the working departments that had the highest incident rates of lost time  $\geq 5$  days. We captured about a quarter of the population in each of the plants. Also, we identified the average lost time rates for all of each plant for the diseases in question. See Graph #1. We compared these plant averages against the rates in the top departments. We looked at cumulative trauma disorder in plant 1 and at degenerative disk disease in plant 2. We can identify six departments in plant 1 with exceedingly high rates of cumulative trauma syndrome up to six times greater than the norm for that entire plant. However, for degenerative disk disease, the worst department in plant 2 has a rate that's not quite twice the average for the entire plant. The background noise of degenerative disk disease is more nearly ubiquitous. If there were a strong relationship between low back problems and lifting work, we should be finding a few departments with very high rates.

It is this kind of continuing evidence that supports Dr. Rowe's thesis: low back pain is primarily a disease process, not an injury.

We are trying to establish that there is a "cost of doing business." In a heavy manual material handling job, that cost is high; it can be decreased with a combination of ergonomic, safety and medical strategies, but there is a rock bottom cost below which we can not go as long as we have a disease we cannot cure.

At Kodak, we have decreased absenteeism from all causes to 2 percent or less, and much of that is the result of administrative pressure. I feel this is the rock bottom cost of doing business, and doubt we can drive it lower with other strategies at this time.



TABLE 1.

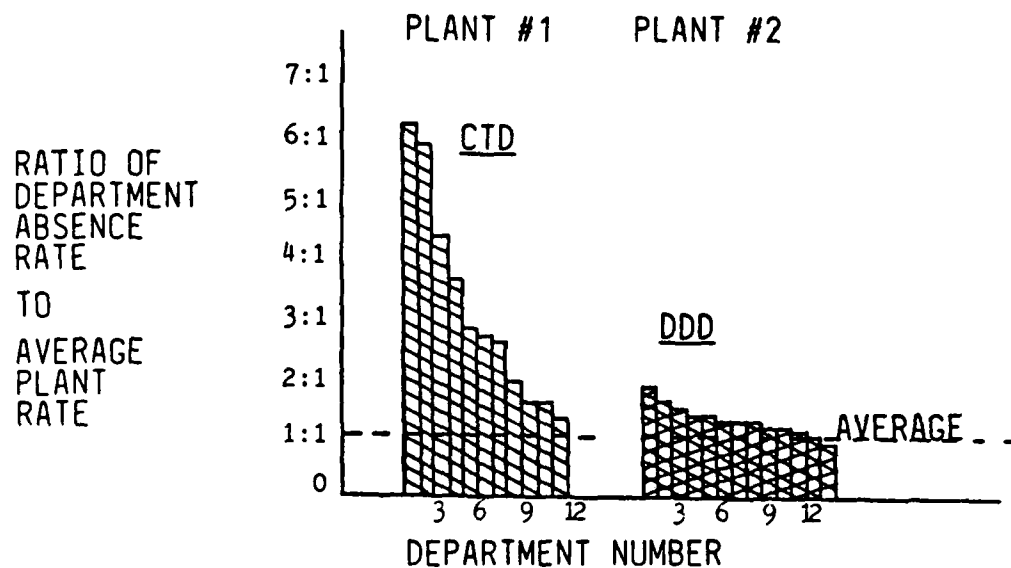
PLANT	#1	#2
A. MAJOR WORK	APPARATUS ASSEMBLY	PHOTOCHEMICAL PRODUCTION
B. CENSUS	15,000 <sub>±</sub>	30,000 <sub>±</sub>
C. DISEASE PREVALENCE		
1. Deg. Disc Disease		
a. # absent > 5 days 100 employees	2.63	2.69
b. # lost days employee	0.45	0.48

TABLE 2.

PLANT	#1	#2
C. PREVALENCE (CONT'D)		
2. Cumulative Trauma Disorders		
a. # absent > 5 days 100 employees	1.05	0.76
b. # lost days employee	0.30	0.17
D. % OF CENSUS IN SPECIAL HIGH MORBIDITY STUDY	25%	26%

GRAPH #1

HIGHEST DEPARTMENT ABSENCE RATES  
COMPARED TO AVERAGE PLANT RATE  
FOR TWO DISEASES



## MONITORING OF BACK CASES

Mr. Dickon Pownall-Gray

Let me introduce myself, Dickon Pownall-Gray. It's a little bit of a difficult name to put forth but my father's true father was killed in the first World War and his name was Gray. My mother married again when he was about a year old so the father he always knew was Pownall, consequently he put the two names together and that's Pownall-Gray. I can understand his intent but it is very difficult over here.

Henry Feffer talked to you this morning. He is, in fact, the Director of Medical Research now at Health Care Systems. I am the Executive Vice President of Health Care Systems and it has been really a privilege to work with Henry for the last couple of years. What we have done as a business is to take Henry's thinking, Henry's learning and Henry's ambitions in a medical sense and to the best of our ability to apply that into a business setting. Dr. Jones, you mentioned Dr. Alf Nachemson. He's a close friend of Henry's and, in fact, we see him one or two days a month. The last time Dr. Petzold came down, Dr. Alf Nachemson was there. Everything I show you now has Dr. Alf Nachemson's stamp on it. He is a very strong individual with a tremendously alert mind. Each time we present something to him he will ask us to justify our thinking which puts healthy pressure on us. From a strictly business point of view we saw that there was a marketplace in the area of workers compensation that was suffering from really rising costs. In a business perspective we were seeing companies competing, perhaps against the Japanese, competing against other companies who were finding that the percentage of payroll that was going out to workers compensation was rising from 2 to 3 to 4 and even 5 percent of sales. That goes straight to the bottom line. In a business setting, when you have got very tight margins, you've got currency fluctuations all over the place, a 5 percent problem like that is very significant indeed. What Henry had found with his research was that if you looked at the country in general, there were tremendous variations in medical practice going on. And if you look perhaps at California and you looked at 100,000 individuals there, you would find that nearly 100 of those were having back operations. If you look in the northeastern corridor, you find it was half that number. I think Henry's feeling was that that, in a true medical skill level sense, this is terrible. You can't have these variations in medical practice. Two important questions arise: (1) what is really happening in this situation? and (2) who are the winners and who are the losers? And I think Henry's feeling, having run a salvage spine clinic, was that it was the employees who were the losers in this situation. Only too often they were getting poor treatment and being led down a pathway which in some very sad cases could end up in a surgery which was clearly unnecessary and

didn't do them any good at all. And the other loser was the company or an agency who has to pay for that and what could we do in that situation. We as businessmen saw a doctor with a very genuine set of beliefs saying that in my view if you improve the quality of care being provided to employees and you impose a monitoring system based on standards of care that are acceptable among the leading academics in the world, you can save costs. So it's not a cost reduction program I am going to talk to you about; it's strictly a quality of care program which, because of the climate we find ourselves in and the escalating costs, has an impact on costs. What I am going to do is take you through our program functions as we see it in the commercial setting, what we are trying to do with a particular commercial client, and how we are thinking about it. At any point when a question comes up, please stop me because there is a lot of thinking that has gone in behind this and this is a fairly simple pictorial explanation of the program which we have developed.

Can I get some sense of the sort of background that is represented in the room? Are we all doctors?

There is about 1/3 safety professionals here; about 1/3 personnel managers here; and another 1/3 would be medical professionals (nurses, physicians, physical therapists).

I am now going to show you one block of our sales presentation which illustrates how the program actually works. I would like to point out from industry some of the cost results that we have managed to achieve. For example, our client at Metro, the risk manager, is being written up as risk manager of the year by Business Insurance, which is the magazine which is relevant for risk managers in that area, for producing tremendous cost reductions. Metro's numbers attribute the HCS program with achieving a five times return on their investment in the first year and also with a breakeven from the moment the program started.

Let me go through this. Please stop me, though, and ask questions. We have devised five program areas. Our first view, again, in the commercial setting, is that if you are going to investigate this problem, you must understand what it was costing in the previous year prior to the program. That mustn't be subjective measurements. It has got to be data that is solid; in fact, it is cash data. That way, at the end of the year in the program, you can look at it and decide whether this was a success or not. Also, we are a small business and so, from a client point of view, we are dependent on being successful at the end of the year and if the client does not see returns on investment that are very exciting, then they are not going to say nice things about us. So this is a two-way defense system that we are operating. We want to make certain that we only take on an opportunity where we know we can have an impact and secondly, that the

client can see results if we do. We write proposals suggesting a solution to a situation. We go ahead and implement our solution. We monitor cases. We provide an impact. If we were talking about an Army situation today, it would probably be a good idea to look at the costs per employee and the orthopedic costs per injured individual. Very quickly you get some sense against the national averages as to where you stood. I will give you some sense. If you looked in your individual commands and found that the cost per employee was above \$300, then that is above the national average. As soon as you start getting up around \$600-900, you are significantly off the national average. A program like this, from our point of view, would say, in a particular agency, a particular command that you have, if you have very high numbers of lost days per employee, very high orthopaedic costs, then you really have a problem you can target on it and focus on it and try and come up with a solution. I think one of the themes that Dr. Jones was mentioning is that, if everybody is committed into this and you get a real understanding the employee advocacy explanations and a real commitment to the employee, you can dramatically improve this situation. We have said pretty much that you can have key people involved saying yes, we like the program and we are committed to it but you must have people all the way down at all levels committed and fully understanding what's trying to happen.

From an implementation point of view, I think all of you know that if you are going to start something new, it is very important that everybody understands exactly what's happening.

We have found in the commercial setting that it is really important that all the little bits of paper work, the tiny parts of the program are tied down tightly. I will give you an example. One of the concerns we always have going into a new situation is early notification of injuries. Henry I am sure, told you this morning that it is critical, if you are going to manage these cases properly, that you find out information about a back injury within a day, within a couple of days of that injury. You then impose techniques and efforts to help that individual straight away. As soon as you pass two weeks, three weeks, you are making the problem much more difficult to handle. So the notification, the actual mechanism of how you people would get the information in your hands, is critical. It is probably one of the most critical things to make the program work. The way we look at the thing is to lay out in a roadmap sense exactly the information transfers, all the items that are important to make this thing work properly. For example, I don't know whether any of you have an electronic tie-in system of notification of injuries, or a supervisor notifying the injury which is then entered into a data base. In the event of that being true, we find we bring in our programmers, make certain that the same digit coding is present in your system as to our system. If it is not, we will rewrite the program, use electronic mailboxes, whatever it is

to pull it in. Or, if that's not possible and it's a paper system, maybe we will come up with a new form, come up with something that is simple and practical that will get the information we need in the fastest possible time. It may well be that you have to come up with some small changes in procedural management just to get that fast information. The employees in our view are absolutely critical here. We are not trying to be hostile in any way, it is strictly an employee advocacy program. We want to help them and we want to stop them from some of the abuses that we have seen happening. They may not know about it at the time, but we really feel that many employees are abused. In fact, the scenario that Dr. Petzold wrote I thought was so true. The number of times an individual is allowed quietly to go down a pathway of greater and greater unhappiness, misunderstandings, nobody paying attention to them, the worse the situation gets. We like to inform the employees exactly what we are trying to do and why we are trying to do it. We haven't got anything to hide. Talking to union representatives, whatever it is, that is very important to us. What we are trying to do then is to collect medical information at the earliest possible point of an injury. If we get that medical information, we can do certain things with it. In our system, we can collect medical information in various techniques. We can telephone the injured employee and take them through a scenario written by Henry which is quite extensive, probably takes 20 minutes to go through on the phone, and elicits a lot of very critical information. Equally, if you have got a large command, perhaps a big base area where you have got employees who can be pulled in from that command area, then it may be worthwhile having a clinic. Maybe you have got the staff on hand to manage that, in which case, the employee would come in and information would be collected. We have gone to great pains to develop standardized forms for all the different orthopaedic areas and, in your case just in backs, for back injuries. We have a number of questions that are asked. We take those questions and we bring them back and we enter them into our computer data base. What you want to imagine here is a form with a series of very carefully organized questions on it. For example, the straight leg raising test. If you lift the leg and there is pain in the calf muscle, that means something and is very important. Our system has an exact screen, the identical to the form sitting on the computer. All the answers from that form are entered in there. There is a weighting mechanism behind it that has been programmed in which it says that straight leg raising test and the pain in the calf muscle score points against the ideal standards of care algorithms programmed in the computer. What happens is that we develop through the weighting mechanism a system diagnosis. It might be a herniated disc but it would come from answering a lot of key questions, each with a different weight to it. What we have found now with a system operating in the clinic setting is that the system diagnosis is agreeing with Henry's diagnosis 97 percent of the time. Equally, no system is ever going to be absolutely perfect, but it is getting pretty close. What we can do then is create an electronic profile

of an individual. That's very important when you think of the large numbers of employees you are talking about. If you can create a profile of that individual and track that individual from the first or second day onwards and be able at any point you wish to generate reports on employees, that is a powerful system. On one report, for example, you can see exactly who is off, how long they have been off, why they are off, what the treating physician is thinking, what we are thinking, and the action that is probably recommended in this situation. For example, if somebody has been out with a mild back sprain and they have been out for two weeks and the algorithm that we have, the conservative algorithm, feels that they should be back at work a week later, there is a recommendation on that report "return to regular duty," or "return to light duty." If they haven't returned at that point, the system red flags and you are immediately on top of that individual. When you are dealing with a lot of people, that in itself is an incredibly important piece of information to have. It is compulsive, a consistent tracking of a situation with excellent medical data. In the event that we see an individual who has hurt their back in some fashion and is proceeding down a pathway of medical management which we don't feel is correct based on that algorithm, and for example, an individual has a mild back sprain, they have been out for three weeks, we feel they should perhaps already be back at work and they are suddenly scheduled for a catscan by their treating physician, a red flag goes up. We don't agree; that is not the treatment that we think is appropriate at this time. That information is then relayed to yourselves and, depending on the teeth you want to apply to this, you can take actions accordingly. When we have a discrepancy and the situation is not resolved, we bring in an Independent Medical Examiner (IME). In our system, that is an individual picked out by Henry Feffer and his colleagues; someone of their peer level, across the country (we have got some 350 people in the network now) and the injured employee has to go and see the IME. As with our other situations, all our reports are standardized and the IME will go through a checklist that we have devised, filling out the questions. One of the critical parts of the evaluation, for example, is what can they do in a work setting? How many pounds can they lift? Can they bend over fully? How long before we think they are going to be able to lift so many pounds? So we get a very objective report coming back from this IME really calling it as they see it. We want very good people explaining to us the situation as forcefully and truthfully as they can. We take that information and put it back into the computer. It updates the situation. We can use that as the teeth of our monitoring: the IME. Obviously we monitor the situation until the case is closed.

By closed, it doesn't mean they have gone back to work. In our mind we are very concerned with reoccurrences of injury and we keep that case open until it is outside the reoccurrence screen. What we feel we are doing, from an impact point of view, is improving the quality of care that's being

provided to employees, and in this current climate with escalating costs, if you improve the quality, our view is that you will bring down the costs associated with it. Because of the climate where we think employees in many cases are not getting optimum treatment, when they get the correct treatment, they are happier and more productive. We find in the industrial setting that when we have gone into a new company, initially the union has been potentially aggressive towards us. We have gone up front and explained our purpose to them and we find that they tend to be neutral after that to slightly positive. As the program works along, the unions have perceived that we are truly cutting both ways; for somebody being under-treated, we will get the best treatment; for somebody being over-treated, the whistle gets blown. That's only fair. Free second orthopaedic opinions are seen as a benefit. We have been surprised by the number of individuals who actually have had friends who have been operated on, who know it didn't work, it wasn't a good thing, and underneath the official line but among the friendship of these employees, a free second orthopaedic opinion is not a bad idea, why not? If surgery is being recommended, it is probably a good idea. We have found that once the program has been in place for a while, the employee perceives this as a committed effort by management to bring in outsiders specializing in quality of care. They are getting a free second orthopaedic opinion if necessary. Because this is strictly a quality program which cuts both ways, they are getting improved health care.

Is there any tendency toward making that second opinion a mandatory?

It depends on each of the jurisdictions that we are involved in within the Office of Workers Compensation; there are different sets of situations. In the industrial setting, the District of Columbia's rules are different from the State of Montana. To a certain extent, we can make them mandatory.

In a practical sense, an employee reports a job-related injury. Under the FECA regulations, they have every right to go and see their own treating physician and sometimes that treating physician is going to be first rate and the case is managed in an exemplary fashion; no problem, our monitoring situation will just follow that very happily. In some cases, and I think perhaps a majority, there is no incentive on that treating physician to get the person to go back to work. If an employee says my back hurts me, why should the treating physician say anything else but here's your medical slip, stay out another couple of weeks. Our system, I think, imposes information to that treating physician questioning their logic and questioning their reasoning, particularly at the IME stage where a photocopy of that report will be sent to the treating physician. Many of them are very reasonable but they have no incentive in the system to get the person to go back to work at the correct time. A little bit of nudging



makes a tremendous difference. There is also a small group, very unfortunately, who I think genuinely often see it as an opportunity for surgery and will lead somebody down a pathway confirming all their worst fears until the surgery happens. Whatever happens once the treating physician has become involved or as soon as we get notice of that injury (and ideally it would be the first or second day) we get involved. It could be a clinic setting or it could be telephone calls or it could be a combination of the both. We have all three of those programs. Enough to say we get the history of the individual, physical examination if we can, the diagnoses, treatment, what the status is, is the person getting worse, are they getting better, when are they going back to work, and what is the medical situation? We end up with our own system diagnosis of that situation and we track that. The information we receive is entered into our computer. As I said, every form that we have with information on it has a screen on the computer with an identical set of information.

How do you collect medical information from the treating physician and do they cooperate?

That's a very good question. I think we have gone through a number of learning processes. We initially tried getting information from the treating physician. What happened to us was that the good treating physicians complied excellently, the weaker ones sporadically, and the ones who we were really after, not at all. So we have given up on any attempt to get any information from the treating physician. Instead, we try and call the treating physician and discuss cases directly and, where appropriate, share IME reports. What we have found for the most part is that the typical treating physician lacks the incentives to get the people back to work more quickly. One telephone call, an explanation and a curiosity as to why the injured worker is staying out that long quite often results in a response from the treating physician that "Nobody ever called me before."

When do you involve your IME network?

When we identify a case which is not following the standards of care of the algorithm, we refer that individual to an IME. We actually handle that scheduling into our network. Depending on the situation, we also handle the billing of that, though we have found ourselves in a slightly awkward position. Being in control of the IME and their scheduling, we were conscious that if we were involved in any way at all with the billing that there could be an accusation potentially that as we control the frequency of IMEs, we might have some vested interest financially. What we found though typically is that one of the great aggravations for IME is not getting paid on time. Thus, we have pretty much stepped in now and said we will honor your bills. In fact, we will pay them straight away, carry the

float, until we are reimbursed by our client later on. We have found as a consequence of paying IMEs early, that there is improved turnaround of reports and improved loyalty to our system. The IMEs that we have chosen have been picked by doctors and had the program explained to them by doctors. In areas where it is a small township out in a big geographic region, you don't have much choice with IMEs and that's difficult. In bigger townships then we certainly have a choice, and we can pick the best ones. One of our difficulties, and a sad but true comment, is that in the area of workers compensation, many of these top physicians don't really want to be involved. They would rather see three private patients and take the money from that than a hostile workers compensation employee. We have a constant effort to persuade them that quality of care really matters and that they have to look at this situation and put some effort in it themselves. At all times we make it clear that the IMEs job is to examine the individual independently and produce an independent report based on their beliefs. They must also get that information back to us as quickly as possible so we get that information to you.

What we are trying to do though in essence is impose a compulsive monitoring network onto a situation. I don't know what information reports you are used to receiving but we are trying to get the best information in the most systematic way into the hands of people who are managing the cases. We give evaluations and updates, and we keep the system running until the individual returns to work. Team work, I think, is very important. Only too often, you will find a particular department not communicating with another department. We are using our account executives to make certain that there is team work; it is only when everybody understand what's going on that you get a cohesive system. That really in essence is what we do from a program function viewpoint.

To summarize, we are looking to see if there is a cost problem. In the event there is a cost problem, we will suggest a solution. That solution could be an on-site clinic or a telephone program. We need information coming out of a Medical Monitoring source area to put into our system. We take pride in getting the earliest notification of injury that we possibly can. We then systematically track what is going on using algorithms (standards of care developed by the leading people in the country) as a benchmark, and compare what is happening treatment-wise against those algorithms. To the extent there is a discrepancy, either under-treating or over-treating, we recommend an independent opinion. We also provide all the reports and the back-up to make certain that the management involved is totally aware of what's going on. We have found that our approach has, in the industrial setting, produced very significant returns on the investments for our clients.

Is there any attempt to use the system for other illnesses or medical problems besides orthopaedic problems?

That's a good question. Strictly from a business viewpoint, we looked at workers compensation, looked at the data behind it, and found that roughly 80 percent of costs are orthopaedic. We started off just with back and we have moved to the other body injury areas. We have algorithms for cervical spine, for ankle and feet, and other body injury areas. The question obviously came up, if this monitoring concept is applicable in workers compensation orthopaedics, surely it is applicable in general health, too. I am going next week to Los Angeles to sit down with the Rand Corporation to come up with ways of creating algorithms in the other illness areas. For example, coronary heart attack is the next biggest cost area that is really seriously abused. The Rand Corporation over the last 4 or 5 years has been studying the variations across the country and developing methodologies to track these variations by coming up with a consensus of what the ideal situation should be. We are trying to take that methodology and do exactly the same as we have done in workers compensation and general health. So that will be the next area.

## OFFICE OF WORKERS' COMPENSATION LOW BACK PROJECT

Richard Larson

Today I will briefly give you an overview of the history of the various projects we have had dealing with the low back. Before I get into that though I would like to just state very briefly the purposes of the Federal Employees Compensation Act. First of all, it provides benefits to the injured worker in the form of compensation and medical benefits. The second major purpose of the Federal Employees' Comp Program is to provide these benefits in a timely and efficient manner.

In the late 1979, two doctors in Washington, Dr. Feffer, whom you have already heard this morning, and Dr. Sam Wiesel, also of George Washington University, introduced to the Program the concept of early intervention. We had in 1980-81 a very small effort in our Washington D.C. district office with just claims from the U.S. Postal Service. We used as our impartial medical specialists, Dr. Feffer and Dr. Wiesel, who examined the compensation claimants in their offices. That project lasted for about a year, and while it was not very well organized, a lot of impressions were formed. One of those impressions was that the incidence of injury decreased. Another impression was that people went back to work earlier. On this basis, we decided that we ought to have a formal project of a larger scope that would possibly answer some of these questions and hopefully give the program information which we could then use to make decisions in terms of future policies and future procedures.

Our first formal effort, in 1982, was designed as a six month project with just the U.S. Postal Service; we targeted four of our district offices: Philadelphia, New York, Washington D.C., and San Francisco. First, the Postal Service put an employee in every one of our district offices to be the coordinator for the low back project. Secondly, USPS agreed to change the standard procedures for submission of claims. In addition to sending written notices, the Postal Service telephoned in notice of the injury, the same day or within one day after the occurrence. Because we had almost immediate knowledge of the injury, we were able to make a referral to a specialist within seven days of injury. Everyone who had a low back injury was referred within seven days. The project was very labor intensive because 1) we had an USPS employee in every office and 2) each one of our offices had at least one claims examiner designated to deal specifically with these cases.

We found that scheduling every employee for an examination is not cost effective, so we went on to the second project, which we labeled the musculoskeletal project to distinguish it from the low back project). It was designed as a two year effort and started in April, 1984. We involved eight agencies (including Army) each of which had test and control facilities, and every one of our district offices were involved. In order to test this concept of early intervention nationwide, as well as across the number of different agencies, the contractor, Health Care Systems, designed two forms: 1) a history form that the claimant would fill out at the time of injury and 2) the examination form which the doctor was to complete and return to Health Care Systems in Washington. HCS took this data and put it into their system and ran it against their algorithm to identify those cases which would benefit from examination by a specialist.

We had only about 40 percent compliance, and we couldn't identify exactly where the deficiency was: it could be the agency forgot to give the employee the two forms or forgot to give them some special instructions; it could be that the employee decided not to give the forms to his or her doctor; or it could be that since there is no particular reward or reason for voluntary participation, the doctor decided not to send the forms on to HCS; or it could be all three of the above. Even if we could have identified the reason, we really didn't have within our means of control a way of overcoming it. HCS, as part of their program, identifies specialists throughout the country where they are needed. Since in this case we had the project in every district office, every state of the country, therefore, HCS had a network of specialists to handle the referrals. That seemed to work well, and we decided that we needed to go on but we needed to overcome this problem of compliance because we couldn't make program decisions and policy with 40 percent compliance.

In late 1984, we decided to discontinue the history forms, take away the voluntary compliance and rather schedule every employee to see a paramedical person whom HCS would contract to be available. The purpose of this appointment was to get an evaluation; from that point on the rest of the project would work the same. We thought we would have 100 percent compliance but there were scheduling problems and before we were able to work them out came up with what we thought was a better idea.

This is what we now call Phase III, which ran from June through December, 1985. We used just our Cleveland and our Dallas district offices and included all back and neck injuries because the algorithms had been developed sufficiently to make this available. Twice a week we ran a list of all back and neck injuries created in that district in the previous two or three days and send or carry that list to Health Care. Health Care would then telephone every single employee and obtain the history and enough medical information to enter this case into their system and run it against their algorithm, which would identify those cases which warranted a referral.

Some of the apprehension that we had was what will be the employees' reaction to a telephone call. Much to our surprise and to our pleasure, not only were there very few (perhaps out of 4,000, maybe a dozen) people who had a negative feeling about participating in this project over the telephone. HCS told us that a great number of people expressed appreciation-"I have been waiting for your call;" "somebody cares about me;" "yes, I would be happy to talk to you about my situation." So that was an unfounded fear that we had and something that we are very pleased about.

HCS in this phase of the project called everyone, whether they were at home at work, and they tracked the person all the way back to work. The general evaluation of this phase of the project was one that all of our systems worked well. First of all, the telephone idea seemed to work very well, better than we had expected. Secondly, the network of specialists continued to work very well. I would categorize these results, however, as still incomplete. We are still evaluating the data.

Before I get into the data which I do have for the 1985 project, let me just tell you what we are presently doing. Beginning in June in our Cleveland office, July in our Dallas office and August in our Denver office, we have gone into what

we are calling Phase IV, striving to develop a protocol which will allow us to identify only those cases where the employee is still not back at work. There were cases where the employee had returned to work and when HCS interviewed the person and put the information they received into their algorithm, a referral was indicated. In those instances, we went ahead with the referral sometimes much to the consternation of the agency and our own claims examiners. We have said from the very beginning that we want to ensure quality medical care and so we thought that if it came out that a referral was indicated, we needed to go ahead with that referral. Is that necessarily bad? I would say no, because if somebody was at work out of fear (fear of losing a job, fear of not getting a promotion that is pending, etc.) you are potentially sitting on a time bomb that could turn into recurrence and possibly a more serious injury. So for the cost of a specialist examination, we thought it a good investment.

What we are presently working on in our three district offices is first of all, we have expanded beyond the back and neck to all orthopedic injuries and secondly, we are working on this protocol trying to establish a means to identify just those cases where there is lost time. Those will be the only cases that Health Care will participate in. We will remove HCS from all the no lost time injuries or the injuries where the person has already returned to work.

For the cases created in Cleveland (April) and in Dallas (June) through December, 1985 (Slide 1): 1) the number of cases that were in the project was approximately 4,200. The reason we have small numbers was Cleveland started in April and Dallas came up in June. That is why the numbers went up significantly. The other important thing is the large number of cases that get to us more than 30 days post injury. I would hope that we do not lose sight of that. If you are going to try to design a system that will be beneficial to the employee medically and to you, the agency, financially and if one agrees to the concept that early intervention is a part of that process, for us to get a claim (notice of the injury) more than 30 days after the fact, makes it difficult. That is something that is at least partially within your control.

The second slide simply shows the breakdown of the three major departments that were represented in the Cleveland/Dallas area: the Postal Service is almost half of our claims; Defense, about one-quarter of our claims; V.A. with a fairly significant part of the claims; and then all other agencies.

(Slide 3) The reasons Health Care would recommend a referral to a specialist include inappropriate work status, primarily that the person is not back at work and should be or, in some instances, the person is back at work and in their view they should not be. The next largest reason is severe or inappropriate treatment. Surgery is scheduled; this is an automatic trigger. I took for granted that in serious cases we would have notification almost immediately after the injury occurred. To my great surprise, half the surgery cases that were in this category came to us more than thirty days after the injury. In about ten percent of the cases, HCS simply was not able to contact the employee. Client instruction is when one of our claims examiners said the algorithm did not indicate a referral but our claims examiner said a specialist examination was in order. Health Care would go ahead and schedule it. Severe symptoms. And finally, the four percent catch-all of other.

Compensation. We compared present year to previous years' and tried to take into account inflation and other variables. We show approximately a 1 percent decline. Remember, this is the cost through February for injuries that occurred

between April and December. If you look at the lifetime of a case, that may very well have changed. Second is continuation of pay. This is paid by you the agency. USPS is the only hard COP data we could get. We checked with a couple points in the Defense Department and we were told that we could not get computerized hard COP data and we tried several other agencies and we ended up just going to the Post Office. They are about half of our population and they showed a 21 percent decline between 1984 and 1985. In medical costs they showed a 10 percent decline between 1984 and 1985. Clearly the COP data is very encouraging; medical costs-10 percent is significant, the compensation cost was pretty much a wash. However, when we looked at compensation costs initially we just wanted to compare the Cleveland/Dallas previous year to present year. The more we looked at the data, we decided to look at a couple of other offices during the same period of time that were not in the project. For compensation costs you can see that Dallas actually experienced an increase in costs (4 percent), Cleveland went down 9 percent. When you put the two together, it came up with the 1 percent decrease that I talked about earlier. We looked at three other offices: Jacksonville, Florida, being a very large office, had a 7 percent increase; Seattle, a small to medium office, had a 16 percent increase; and Boston, a small to medium office, had a 47 percent increase. When compare Dallas against some of these other offices, it tends to look better. That is where we are today.

FIRST FORMAL EFFORT

OWCP  
1982

6 MONTH, USPS PROJECT IN NEW YORK, PHILADELPHIA, WASHINGTON, D.C. AND SAN FRANCISCO

- USPS EXPEDITE SUBMISSIONS OF CLAIM TO OWCP
- USPS EMPLOYEE IN EACH DISTRICT OFFICE
- EVERY CASE SCHEDULED FOR SPECIALIST'S EXAMINATION IF NOT RETURNED TO WORK IN SEVEN DAYS

EVALUATION:

- LABOR INTENSIVE
- TOO INCLUSIVE (NOT BENEFICIAL IN ALL CASES)
- NEED TO TEST AS ROUTINE PROCEDURES



MUSCULOSKELETAL PROJECT

OWCP  
1984

2 YEAR, EIGHT AGENCY PROJECT, IN ALL DISTRICT OFFICES

- AGENCY PROVIDES EMPLOYEE WITH HISTORY FORMS
- EMPLOYEE COMPLETES HISTORY AND GIVES TO DOCTOR
- HCS APPLIES ALGORITHM TO IDENTIFY REFERRALS CANDIDATES
  - HCS SCHEDULES REFERRAL
  - CLAIMS EXAMINER TRACKS RECOVERY AND RETURN TO WORK

EVALUATION:

- 40% COMPLIANCE
- COULDN'T IDENTIFY FAILURE POINT
- ALGORITHM AND SPECIALISTS NETWORK FUNCTIONED FINE

1984 1/2 - PARAMEDICAL EVALUATION FOR HISTORY  
EVALUATION: SCHEDULING PROBLEMS

PHASE III

OWCP  
1985

6 MONTH, ALL AGENCIES, CLEVELAND AND DALLAS REGIONS

- HCS TELEPHONES EVERY CLAIMANT FOR HISTORY
- HCS APPLIES ALGORITHM TO IDENTIFY REFERRAL
  - HCS SCHEDULES REFERRAL
  - CE TRACKS RECOVERY AND RETURN TO WORK
  - HCS TRACKS RETURN TO WORK

EVALUATION:

- ALL SYSTEMS WORKED WELL
- WILLING PARTICIPATION BY CLAIMANTS
- RESULTS INCOMPLETE

PHASE IV

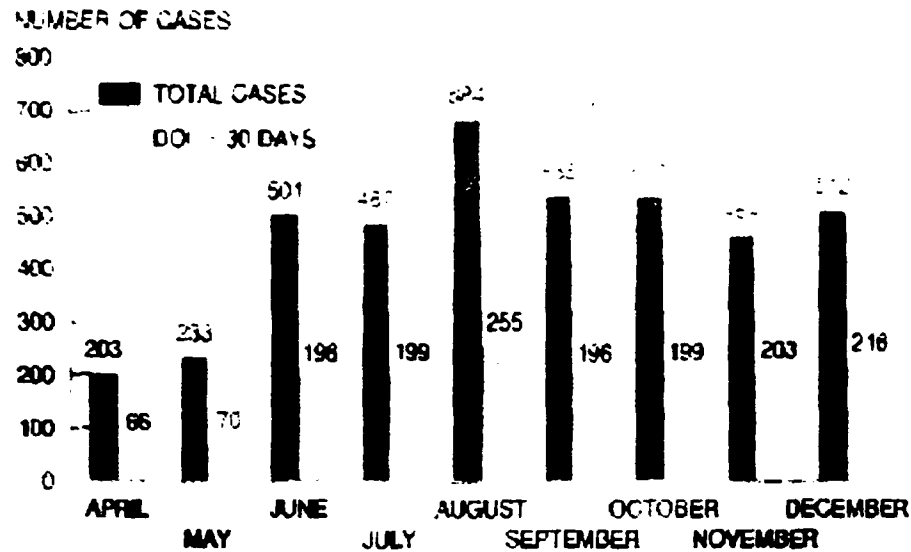
OWCP  
1986

6 MONTH, ALL AGENCIES, CLEVELAND, DALLAS, AND DENVER REGIONS

- INCLUDE ALL ORTHOPEDIC INJURIES
- FOLLOW SAME PROTOCOL AS IN 1985

SLIDE 1

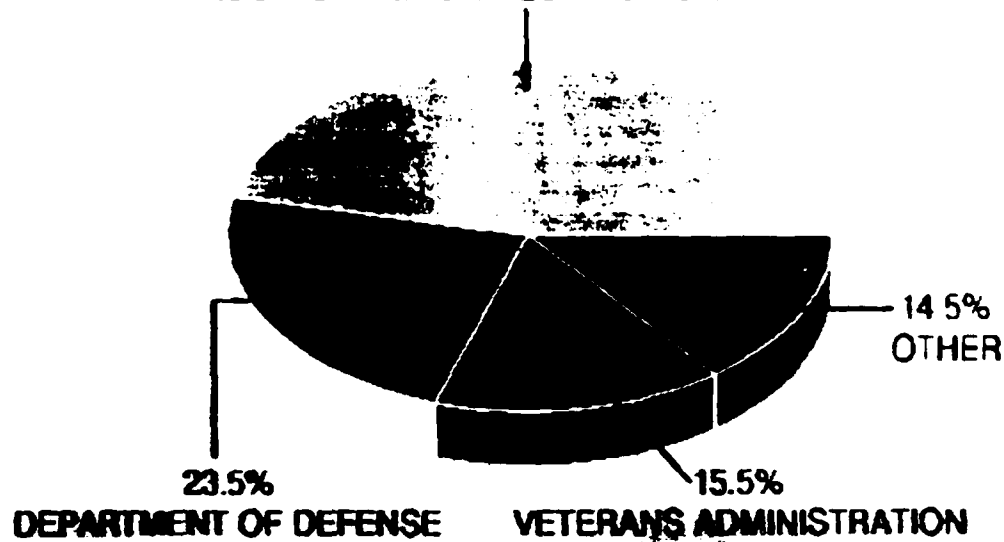
### EARLY REFERRAL PROGRAM CASES RECEIVED APRIL - DECEMBER 1985



SLIDE 2

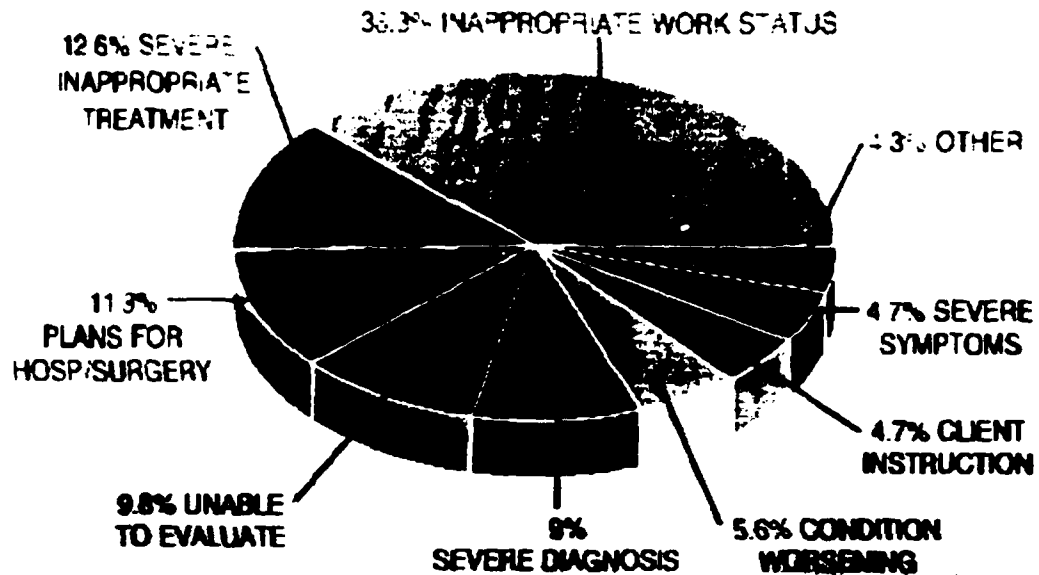
### EARLY REFERRAL PROGRAM INJURY INCIDENCE BY AGENCY, APRIL - DECEMBER 1985

46.5% UNITED STATES POSTAL SERVICE



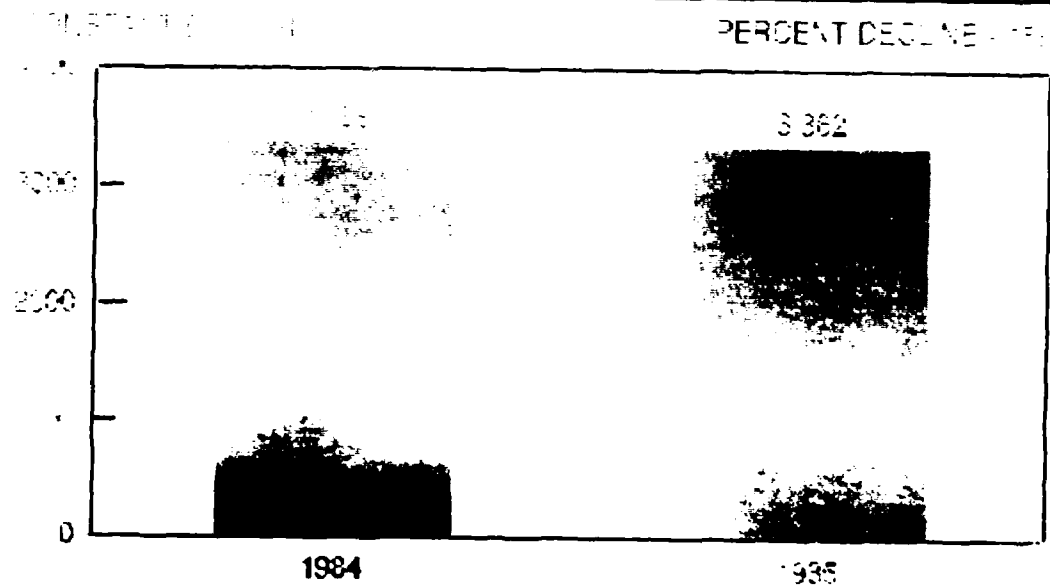
SLIDE 3

### EARLY REFERRAL PROGRAM REASON FOR SPECIALIST REFERRAL, APRIL - DECEMBER 1985



SLIDE 4

### EARLY REFERRAL PROGRAM COMPENSATION COSTS AVERAGE COSTS PER CASE 1984 V 1985



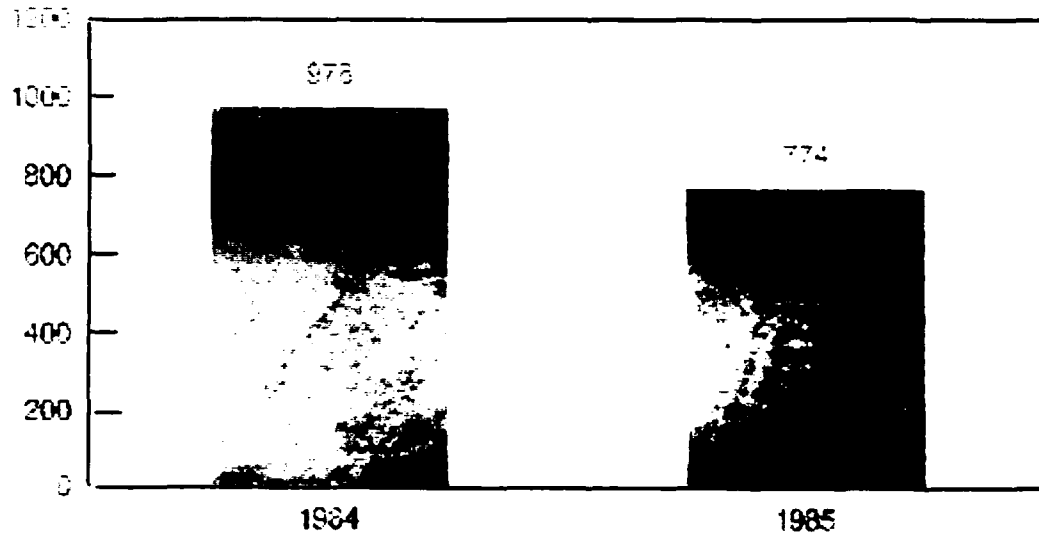
11-6-9

SLIDE 5

## EARLY REFERRAL PROGRAM CONTINUATION OF PAY COSTS\* AVERAGE COSTS PER CASE 1984 V 1985

CONSTANT DOLLARS

PERCENT DECLINE - 21%



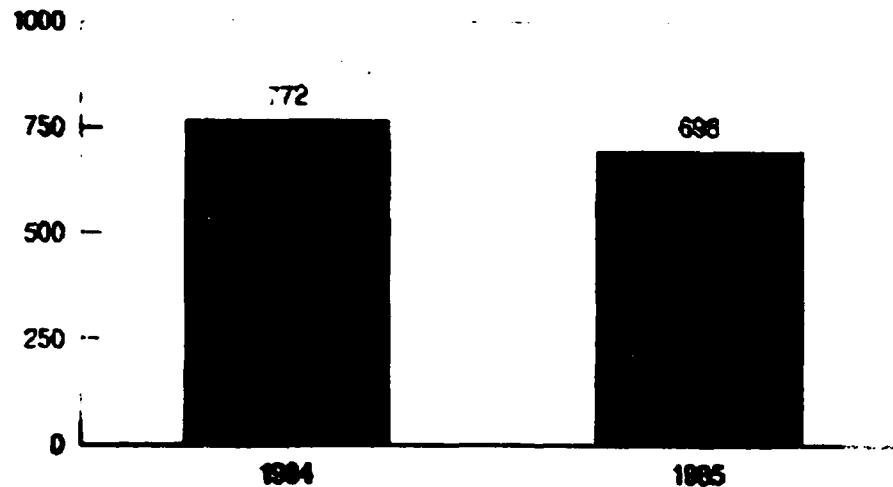
\* U.S. POSTAL SERVICE EMPLOYEES ONLY

SLIDE 6

## EARLY REFERRAL PROGRAM MEDICAL COSTS\* AVERAGE COSTS PER CASE 1984 V 1985

CONSTANT DOLLARS

PERCENT DECLINE - 10%



\* EXCEPT PROGRAM COSTS INCLUDED IN THE 1985 MEDICAL CATEGORY

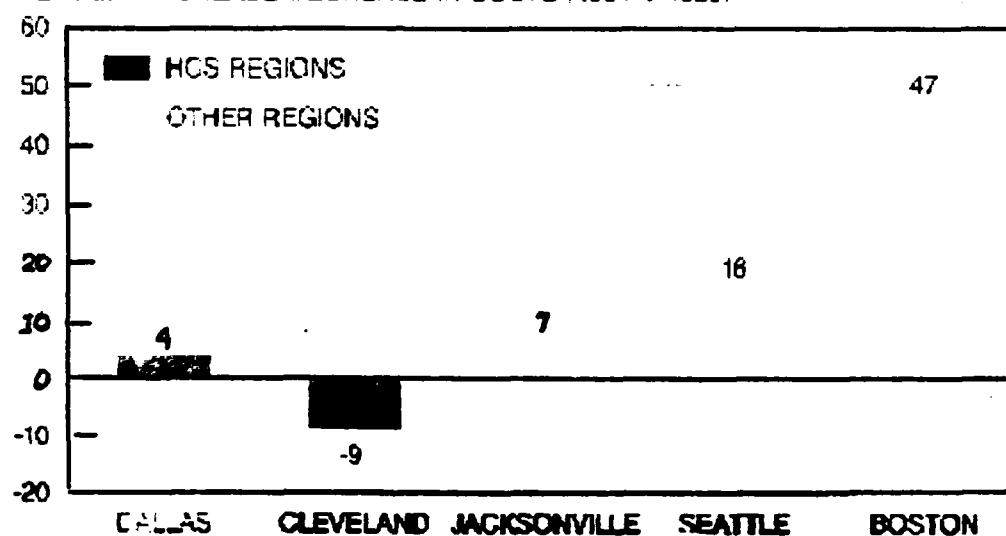
11-6-10

SLIDE 7

## EARLY REFERRAL PROGRAM

HCS PROGRAM REGIONS V NON PROGRAM REGIONS PERCENT  
INCREASE/DECREASE IN AVERAGE COSTS PER CASE  
COMPENSATION COSTS (1984 V 1985)

PERCENT INCREASE/DECREASE IN COSTS (1984 V 1985)



11-6-11

TRAINING WORKERS TO RECOGNIZE WORKPLACE BACK HAZARDS  
(OVERVIEW OF VISUCOM'S PRO-BACK TRAINING PROGRAM)

Kathy T. Pinkos

FACTS ABOUT PREVENTION THROUGH TRAINING

During the development of the PRO-BACK Low Back Pain and Injury Prevention Program, Visucom reviewed existing approaches to solving this training problem. Our research uncovered the following information:

1. To train only workers is to assume that improper lifting techniques are the sole cause and sole remedy for Low Back Pain problems. No attention was being given to Workplace Design or Work Practices, both of which can FORCE workers to lift in such a manner that Low Back Pain episodes WILL occur.
2. Science has shown that a worker who has had one episode of Low Back Pain is THREE TIMES more likely to suffer another incident than someone who has never had an episode. Educating workers only as a part of a rehabilitation program, while good, is somewhat like having the tail wag the dog. True major cost reductions occur when the first episode is prevented.
3. Usually rehabilitation and other back courses are run by experts who can teach a limited number of people at any one time. Organization-wide implementation, therefore, may take a very long time and be quite expensive.
4. Films alone are unlikely to create improved lifting skills. To be effective, practice activities and regularly scheduled training sessions are imperative.
5. The people in an organization who can make the largest impact on the Low Back Pain problem - supervisors, engineers, upper management, health specialists, purchasing personnel - are rarely included in Low Back Pain prevention training programs.

PRO-BACK was designed to correct these training problems. The attached "Comparison Chart" details the superior training approaches to Low Back Pain prevention that are used in the PRO-BACK Program.

### COST EFFECTIVENESS OF PRO-BACK

1. Because of the focus on ergonomics and human factors, PRO-BACK can produce improved productivity as well as a substantial reduction in Low Back Pain costs. These productivity gains are not usually experienced in other back programs.
2. Once in-house "Master" trainers are trained, there is no need to continue to invest additional monies on outside consultants. The only continuing costs should be the salary cost during the training sessions.
3. Because it is a comprehensive package, PRO-BACK, may be implemented rapidly. The more rapid the implementation, the more rapidly the organization will see the benefits of reduced Low Back Pain costs and greater productivity.
4. Most of the Work Practice changes have little or no cost associated with them.
5. Many of the Workplace Design changes have nominal costs associated with them.
6. Purchasing departments will be able to consider Low Back Pain reduction concerns when specifying materials and equipment.

### ADDITIONAL COMMENTS

The cost-effectiveness of any program is a function of the level of commitment that an organization has to make a program work. It is, therefore, impossible to predict the savings to be realized by implementing the PRO-BACK Program. Those organizations who have made a "commitment" to the program seeing immediate changes in Workplace Design and Work Practices which have resulted in improved productivity. PRO-BACK is still too "young" to have statistically significant data on Low Back Pain reduction, but all organizations using the program are confident that this will occur.



## COMPARISON OF PRO-BACK TRAINING WITH OTHER TRAINING PROGRAMS

### OTHER PROGRAMS

Only focus on worker training.

May rely too heavily on audio/visuals

Talk about safe lifting but do not allow for practice of safe lifting techniques.

Sometimes contain exercise programs to warm up the back before lifting but do not improve the design of lifting tasks.

Focus on rehabilitating the injured worker - the education is delivered AFTER the employee has already cost the organization money. These programs could be described as "Prevention of the Re-injury" programs.

Often rely heavily on "experts" who can teach only a limited number of people at one time. Therefore, total implementation can be extremely expensive and time consuming.

### PRO-BACK PROGRAM

Designed to train supervisors, managers, engineers, purchasing agents, health and safety specialists AND workers.

Combines high quality audio-visuals with fine-tuned practice activities.

Teaches lifting as a SKILL through repeated practice activities, supervisor role-modeling, and positive reinforcement on-the-job.

Does not include an exercise program, but rather teaches supervisors and engineers how to reduce the forces on the back through proper workplace design and work practices, easily and economically.

A Preventive Program. Scientific studies show that the most effective way to reduce the forces that workers put on their backs is by making changes in Workplace Design, Work Practices, and by using proper training and lifting techniques.

Is available as a total training package that anyone can run using the comprehensive Instructor's Guide and other Program materials. Dr. Don Chaffin from the University of Michigan, is one of the world's foremost leaders in biomechanics and ergonomics as they apply to Low Back Pain prevention and he appears in the audio-visuals.

Note: (After Visucom had trained one group of Master trainers for a client, the Master trainers, using the PRO-BACK package, trained 2,000 people in two weeks.)

## THE ARMY LOW BACK PROBLEM

LTC Robert W. Petzold

### Purpose:

As Part of the Department of Army's effort to meet the President's goals for an annual 3 percent reduction in compensation claims, a musculo-skeletal/back project has begun. Since Low Back Pain accounts for over 20 percent of all claims and since the general public has many misconceptions about Low Back Pain, the following dialogue has been developed to help increase awareness of the Low Back Problem. This information can be used in whole or in part in any post newspaper, newsletter, etc., as desired to help achieve increased awareness of the facts about Low Back Pain. POC is LTC Robert Petzold, Kirk US Army Health Clinic, APG, MD 21005-5131, AUTOVON 298-3814, Commercial (301)278-3814.

### How Do We Solve the Back Pain Problem?

Bob: The back pain problem? I didn't know we had a problem. Sure, "most of the people I know have had their backs go out, but they are all okay now. And, I know some who have to be careful because they have weak backs, but they hardly miss any work at all. So what's the back pain problem? Wait a minute, I do remember one guy named Joe. He was a nice fellow: worked with me for 3 years. He was rather quiet; I think he had some problems at home, but he never talked much about himself. I remember he hurt his back. I don't remember just how it happened, whether it was at work or at home, but I think the company paid for it. He was off work a couple of weeks, then came back, but he kept having problems. The boss finally told him that he wanted him to get well before he came back. The last time I saw him he didn't look so good. He said he couldn't find a doctor to help him. He wanted to work, but felt like he wasn't needed until he recovered. Only the personnel folks seemed to offer him any hope with the possibility of disability pay. I got the feeling that his family was down on him too. Poor Joe, I don't know what happened to him. Maybe he found a back surgeon to fix him up and is working somewhere else. Still, he is the only one I can think of and he is not around anymore, so where is the back problem?

James: There are a few things I want to tell you before we get into the specifics of the problem.

Bob: Okay, go ahead.

James: Eight out of 10 adults, both men and women, will have back pain from a sprain or strain during their lives. Most commonly during their 30s and 40s. And if you have back pain once you have a 50 percent chance of getting it again.

Bob: Yeah, I'll bet you're right, my back went out when I started playing on the basketball team, but I was only off work for 3 or 4 days. And then again when we spent all day Saturday moving the office, my back was so sore, I couldn't move for three days, missed a day of work then too. So I can believe that most people have more than one back strain! But that's nothing, what about the guys with bad backs, ruptured disks and all those bad things.

James: Ruptured disks account for less than 10 percent of all back pain.

Bob: So, like I said, where is the back pain problem?

James: In this country there's an average of 1 1/2 lost work days each year for every worker due to low back pain.

Bob: That doesn't sound too bad, about like the common cold isn't it?

James: Yes, visits to doctors for back pain rank second right after the common cold. But, 20 percent of all work related medical claims are due to low back pain and over 30 percent of all medical and disability costs are from low back pain claims. And, claims costs 14 billion dollars a year in the United States and 30 million dollars a year in the Department of the Army. And we know that 90 percent of these costs come from only 25 percent of the people who had back pain.

Bob: Well, I'll tell you I'm not getting any of that money, must be folks like my friend Joe. Wonder where he is now? I wonder if he's still getting disability payments or if he ever got them? What happens to those folks who can't go back to work anyway? Someone must be taking care of them!

James: Eighty percent of back strains are back to work in 1 week and over 90 percent by 6 weeks. Almost all recover eventually to a point where they can work even though it may take a year or more. But a few like Joe, develop into low back losers and it's often hard for these folks with bad problems to realize that they can't do the hard labor they are used to for a while. Unfortunately, most bosses think that they can't afford to keep these hard luck folks around. They think the insurance will pay for them.

Bob: Now, wait a minute, someone must pay for the insurance! Well I'm beginning to see that these low back losers could be a problem we could easily overlook. Isn't there a way we could keep these folks from getting into this problem?

James: To prevent the low back sprain problem, especially the bad cases, we would like to know what causes back pain.

Bob: But I thought heavy lifting caused low back pain.

James: Not necessarily, remember, you hurt your back playing basketball.

Bob: Yeah! And playing basketball wasn't really heavy lifting; and I knew a guy whose back went out just bending over picking up a pencil.

James: Those workers who do heavy lifting only have about 20 percent more claims than those who do light lifting. And we don't know whether this is because they really hurt their backs more often, make claims more often, or seem more disabled because they can't go back to hard work as soon as other workers. So far no screening methods have been able to predict which workers will have a bad back in the future--not x-rays, not strength testing, not even history of a bad back.

Bob: So if we can't find out who will have a bad back, can't we at least do something to keep it from happening?

James: A lot of people are working on this and there is agreement that keeping in shape and using your head before you use your back can help lower the chances of hurting your back. But people are people, especially here in the land of the free and the home of the brave, and so far, few bosses have been able to find ways to keep all their workers lean and mean. And, when in a rush, most of us forget the rules for handling heavy loads, like getting good footing, getting a good grip, keeping the load as close to you as you can. AND MOST IMPORTANTLY, getting some help if the load causes you to strain at all - either other people or some equipment. Of course, every accident related back injury should be carefully investigated to see if the workplace or work practices were at fault. Sometimes new equipment or new ways of working can help prevent back injuries. But this process is slow and doesn't begin to decrease the cost of low back pain for some time.

Bob: So what do we know so far?

James: Almost all of us will have some back pain at some time in our life but fortunately over 90 percent of that pain will be due to back sprain or strain and we will be back to normal in less than 6 weeks, often in less than 2 weeks. The back pain may be related to work or just as likely to play, work at home or in the community. We also know that for most the best treatment is back rest for a few days, applying cold first and then heat, off and on for a few days. Afterwards, reconditioning by stretching and cardiovascular fitness training will get us back to being lean and mean. We don't know how to predict in a fair way who will get a bad back. And we often can't determine just what activity in a job or at play caused the back pain.

Bob: So what are we going to do?

James: We are still stuck with 20 percent of the medical claims and 30 percent of the costs. AND THAT'S A LOT OF MONEY. People who pay the bills can't afford to ignore it. It cuts into other benefits and plans. And there is that small group, the low back losers, who will take longer than 6 weeks to recover who eat up 90 percent of costs and still suffer.

Bob: Yeah, I remember poor Joe, he didn't seem too happy last time I saw him. I don't think I'd like to be in his place. Having pain off and on with no one to help, can't work, no respect. He was on his way to becoming a low back loser. I wonder if there are others like Joe? I remember you said that 90 percent of the costs of low back pain come from 25 percent of the cases. Was Joe one of those?

James: Well, you're pretty smart. You guessed right. The guys and gals like Joe are the real problem.

Bob: What a waste, if only we could do something with them for a few months, maybe even a year or 2, till they get back on their feet. So what do you think happened to Joe?

James: Well we don't know but odds are after five years he's drawing some disability and working at a lesser paying job. All in all not as well off as he was before, probably still having problems at home and still feeling poorly.

Bob: But what should have happened to Joe?

James: Well immediately after Joe hurt his back or didn't show up for work because of back pain, the safety and medical folks at his work should have showered him with attention and questions about how it happened and what was being done to help him and his family. His boss should have called the first week and let him know he was missed and his old job or a light duty job was waiting as soon as he could return. After Joe was out of work about 2 weeks, not uncommon with low back pain, the local manager should have been asking the supervisor and the medical folks regularly about what was going on with Joe.

Bob: And just what questions should the local manager be asking?

James: He should be asking the supervisor: "How is Joe today?" "When does he think he can come back to work?" "Have you explained our light duty program to him and has he told his doctor about it?" "What's his mental attitude like?" "How's his family?" "Do they need a visit from our employee assistance folks?" "Are we staying in touch with him regularly?" The local manager should also be talking to the nurse or doctor and asking them: "Have you checked with him this week?" "Have you had a chance to see and examine him?" "Have you looked at the report from his doctor?" "Is the treatment reasonable?" If not, let's take action now to get him seen by a specialist. AND! the staff shouldn't ignore Joe's personal and family problems at a stressful time like this. If there is any chance that they may affect his ability to get going again with his life and work then he should be encouraged to see a counselor right away.

Bob: Wouldn't all that be hard for one person to do?

James: Yes, a good manager might find it hard to do all this, what with all the responsibility he has. But one good practice, adopted at some Army Installations, is to have a working committee which meets regularly to evaluate work related injuries and illnesses and manage each case with individual assignments and regular follow-up. Who should be on this committee? Usual members of this committee include the Safety Officer, FECA Program Administrator, Occupational Health Physician or Nurse, Employee Assistance Program Coordinator, and others as needed. Then with regular attention from this capable team, cases like Joe's could not get away from us. And wouldn't Joe have benefited in the long run? Evidence has shown that good early management of low back pain can prevent the low back losers which we can't afford, any of us.

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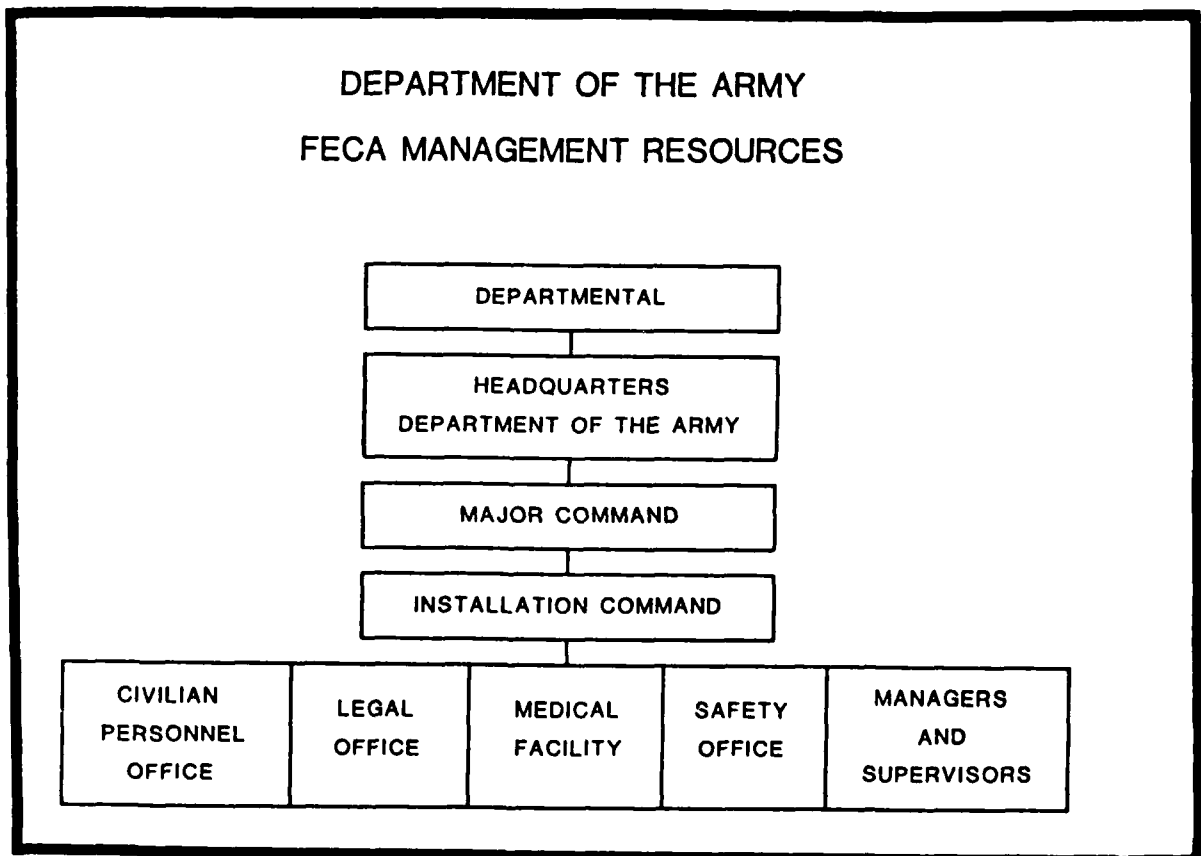
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## FEDERAL EMPLOYEES' COMPENSATION ACT (FECA) PROGRAM

Mr. Robert Becker

### RESOURCES

The organization of Army resources for management of the Federal Employee Worker's Compensation Act Program, referred to as the FECA Program, uses a pyramidal management structure from departmental level, to Headquarters Department of the Army and down to more than 30 major commands. This management structure continues further down to the 170-plus installation commanders. Each installation commander has, on his staff, a civilian to provide advice, assistance, and medical services to employees. Additionally, managers and supervisors, proportional to the 375 thousand Army employees, administratively manage the program.





DEPARTMENT OF ARMY

COSTS  
(IN MILLIONS)

<u>FY</u>	<u>OWCP</u>	<u>COP</u>	<u>TOTALS</u>
86 (Through 3rd QTR)	84.5	4.2	88.7
85	97.9	5.2	103.1
84	91.5	5.7	97.2
83	88.3	5.6	93.9

COSTS

Department of Labor medical and compensation costs for Army employees exceeded \$84.5M for the first three quarters in FY 86, up 15.9% over the same period in FY 85. All costs, Department of Labor and continuation of pay costs, paid to employees during the first 45-days of disability, were also increased during this period by the same percent, 15.9 considering the average of the first three quarters costs, the Department of the Army FY 86 costs will exceed \$118M as compared to \$103M for FY 85.

ARMY FECA RESOURCES

- PROPOSED
  - DA Liaison Representatives in OWCP District Offices
  - Developmental Assignment, 1-Year, HQDA, CIVPERCEN
  - Local Offices should vest the FECA Administration to a Senior Personnel Specialist

Most of these employees, 45%, are long term disabled employees who have been so for more than a year. We have tested a procedure, a joint effort of the Department of the Army and Department of Labor, aimed at reducing the number of employees on the long term rolls. The procedure involved use of DA liaison representative in the DoL's OWCP district offices. The DA representative assisted in case reviews, identifying employees who may require updated medical documentation, be able to return to duty, or be involved in abuse or fraud. The project resulted in the termination, suspension or reduction of compensation and the reemployment of employees for a lifetime savings of \$2.6M. We are proposing to establish DA liaison in several OWCP district offices.

A plan is underway to augment the Headquarters staff for a 1-year period. We believe this additional resource will facilitate control and the reduction of costs in provided a needed communications link between managers & supervisors, the civilian personnel and medical officers, and our proposed DA liaisons in the various OWCP district offices.

While our installation commander's have for the most part vested FECA responsibilities with senior specialists, we are encouraging that FECA duties be, in fact, performed and/or closely monitored by such specialists, (which has not always been the case).

#### ARMY FECA PROGRAMS

- INFORMATION PROGRAM

WAS ITEMS  
MEMORANDA  
LETTERS  
ELECTRICAL MESSAGES

- EXTERNAL LAWS & POLICIES

RECOMMEND/SUPPORT CHANGES  
MEDICAL CHECK-IN POLICY  
ADVOCATE COMPLIANCE

The Director of Civilian Personnel issues "was" items and other media, as the urgency and practicality of the situation may necessitate. The DCP informs major command Directors of Civilian Personnel and Installation Civilian Personnel Officers of new or changed policies developed at the Headquarters, or to seek comments on proposed changes to policies or legislative proposals.

We are in the process of implementing a policy change regarding injured employees. Under current policy, an injured employee can seek initial medical attention from private medical sources. We believe that immediate medical evaluation by the Army medical treatment facility is beneficial even if the employee chooses to be treated by a private physician. The employee receives immediate medical attention while management is afforded an opportunity to assess the extent of injury and a prognosis of the length of disability and when the employee may be expected to recover sufficiently to perform some duty.

Our internal policies stress compliance by those within the management structure and associated with administration of the program. We advocate change in external policies where we find that the situation may represent a more stringent application of the law than intended by the law.

#### ARMY FECA PROGRAMS

- CASE MANAGEMENT

NOTICE OF INJURY/ILLNESS  
MEDICAL ATTENTION  
CAUSE OF INJURY/ILLNESS  
THIRD PARTY LIABILITY  
FRAUD  
ABUSE

The Department of the Army's main objective in the administration of the Federal Employees' Compensation Act is to provide, as promptly as possible, all the benefits to which an injured employee is entitled. The supervisor's primary duty is to see that adequate medical attention is provided immediately. The supervisor must report all injuries and complete the needed forms promptly, even when the supervisor disagrees with the employee's purported extent of injury. The supervisor should keep abreast of the disabled employee's status to restore the employee to duty in a full or limited capacity.

Installation safety officers have a vital interest in how injuries may point out unsafe or hazardous conditions. The safety official compares the report of notice of injury/illness with the safety accident reporting data as a means of cross checking and analyzing hazards caused by unsafe practices or work environments leading to injuries/illnesses.

Cases in which third-party liability, fraud, or abuse are suspect will be discussed with the legal office to find out whether charges in of the case can be legally supported, if so, the case is referred to the DoL for further action on a third-party claim or to the appropriate investigative agency.

#### ARMY FECA PROGRAMS

- REEMPLOYMENT PROGRAM

FULL DUTY  
LIGHT DUTY  
PART-TIME DUTY  
10% REEMPLOYMENT GOAL

- TRAINING

DEPARTMENT OF LABOR (DOL)  
Training Courses/Seminars  
Resource Materials

DOL/DA TRAINING SEMINAR  
FECA Administrators

In 1983, the Department of the Army established an operating objective to reduce Army's injury compensation costs by reemploying 10% or its employees identified as being on the Department of Labor's periodic (long term) rolls. An Army-wide program for the reemployment of compensable injured employees in full, light, or part-time positions was established in October 1985.

With the cooperation of the Department of the Labor, approximately 6,000 Army managers and supervisors have been given training in CONUS and in Europe. The Department of Labor has informally agreed to participate in an additionally training program: To train key major command FECA program administrators in the program with further training in instructor training to enhance our ability to sponsor in-house training as needed.

### ARMY FECA PROGRAMS

- COSTS MANAGEMENT

CONTINUATION OF PAY (COP)

DEPARTMENT OF LABOR CHARGEBACK

Medical Costs  
Compensation Costs

INTERNAL DATA SYSTEM OF REPORTS

As mentioned earlier, costs continue to increase. We expect positive results in this area to accrue from the proposed programs, mentioned on a previous chart as well as other programs we are considering. For example, under current procedure, the total reimbursement to the Department of Labor for injury and medical costs to our employees is made from the Headquarters budget. These costs may be decentralized to the respective major commanders and installation commanders.

This accountability program for costs (hence workloads and productivity) should encourage better administration of the program. We have in place a data system of reports capable of effecting decentralization of costs. Placing such program into operations is only dependent upon agreement with the several budget authority offices within Army and development of budget program procedures.

Our internal data system of reports, 11 total, provide commanders at all levels with management information necessary to monitor injuries, medical and compensation costs, and the number of employees on the periodic (long term) rolls. Timeliness of reporting disabilities to the DoL and other administrative control indicators are also included in the reports.

ARMY FECA PROGRAM GOALS

UTILIZE ALL RESOURCES

TRAIN FOR EFFICIENCY

EFFECTIVELY MANAGE FOR PRODUCTIVITY

GOOD FECA BUSINESS

These are the goals we are aiming toward with our current and proposed program goals. We sincerely believe that our program goals can be achieved through diligent application of the programs we have identified along with those set by outside controlling agencies.

## NAVY BACK INJURY PREVENTION PROGRAM

LCDR William S. Quillen, MSC, USN

Back injuries, other than those attributable to falls, are in most cases not really traumatic injuries, but rather the culmination of repeated lifestyle abuses placed upon the musculoskeletal structures of the spine over a period of time. These abuses may occur at the worksite and during off-duty time yet it is the employer who has been primarily saddled with the responsibility and the economic impact of this diagnostic entity. The Department of the Navy, with both its uniformed members and civilian industrial base employees, presented the characteristic case of significant manpower and dollar losses attributable to acute episodes of this chronic problem.

Recognizing that aggressive and coordinated management action was necessary to control back injury, OPNAV Notice 5100 was issued in May 1986 establishing the Navy Back Injury Prevention Program at installations with 500 or more personnel attached. Concurrent with this effort by OP-45, and in response to DOD Directive 1010.10 concerning Health Promotion, the Navy incorporated back injury prevention education and awareness into its SCENAV instruction as an integral element of the overall Navy health promotion effort. This organizational "marriage" of efforts between OP-45, the Occupational and Environmental Health and Safety proponent, and OP 15, the Human Resources Management proponent, resulted in a firm commitment to the institutionalization of the initial efforts.

Phase I of the implementation will involve the provision for worksite education of uniformed members and civilian workers. This education, utilizing a "Navyized" version of a prominent commercially available Back School module, will be delivered by Navy Medical Department Physical Therapy Officers at 30+ sites in/out CONUS. Out year planning calls for expansion of this training cadre to include Safety Officers and Occupational Health Nurses. Ergonomics training will be provided to selected individuals to provide for regional consultative support to field activities. Parallel to these near-term activities; procedures for enhanced case management, treatment and rehabilitation are being jointly staffed for possible adoption.

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DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
WASHINGTON, DC 20350-2000

Canc frp: Feb 87  
IN REPLY REFER TO  
OPNAVNOTE 5100  
Ser 45/6U391653  
8 May 1986

OPNAV NOTICE 5100

From: Chief of Naval Operations  
To: All Ships and Stations (less Marine Corps field addresses not having Navy personnel attached)

Subj: NAVY BACK INJURY PREVENTION PROGRAM

Ref: (a) Presidential memorandum of 11 Oct 83 (NOTAL)  
(b) CNO WASHINGTON DC 051922Z DEC 83 (NAVOP 123/83)  
(c) CNO ltr 5100 Ser 454C/4U384401 of 6 Jun 84 (NOTAL)  
(d) OPNAVINST 12000.14 with CH-89 of 10 Apr 85 (NOTAL)  
(e) OPNAVINST 5100.23B, Navy Occupational Safety and Health (NAVOSH) Program Manual with CH-2 of 6 Jan 86

Encl: (1) Key Elements in Managing a Back Injury Prevention Program  
(2) List of Resources Available for Use in Maintaining a Back Injury Prevention Program

1. Purpose. To establish requirements and provide guidance for a special emphasis program to reduce and minimize back injuries among personnel within the Navy.

2. Background.

a. Reference (a) announced the Presidential program to reduce the number of claims for occupational injuries and illnesses by 3 percent per year over five years. Pursuant to reference (a), the Chief of Naval Operations (CNO) program to meet the Presidential goals was initiated in references (b) and (c). A review of civilian occupational injury claims records for the Department of the Navy reveals approximately 33 percent of all lost time claims are related to back injuries which are in whole or part caused by excessive stress on the spinal column. Current statistics on military personnel are not available, however, a special study conducted by Naval Health Research Center (NHRC) covering the time frame July 1965 through December 1976 notes a similar trend for military personnel. The



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OPNAVNOTE 5100

NHRC study states that the total number of days hospitalized (i.e., non-effective days), compiled by Navy personnel during this period was 82,451. Back injuries accounted for 54.5 percent of the total number of hospital days. Overall nation wide it has been estimated that back injuries make-up for about 20 percent of all occupational injuries in the U. S., and cost as much as \$30 billion each year.

b. Back injuries, other than those caused by falls, are in most cases not really traumatic injuries, but rather are a result of repeated stress and strain placed on the muscular and skeletal structure of the spine over a number of years. This results in scarring of the facet joints, micro-fractures of the discs and eventual degeneration of discs to the point where they rupture requiring long periods of disability for recuperation, and expensive medical costs. In order to control stress and strain which can result in degenerative back injury, and to reduce back injury claims and costs, a special emphasis program is being established.

3. Discussion. Aggressive and coordinated management action is necessary to control back injury claims and costs. Enclosure (1) provides guidelines for activities in developing and managing a back injury prevention and control program. Enclosure (2) provides a listing of resources available for use in maintaining a meaningful back injury prevention program.

4. Action. Major industrial, test, research, commercial and supply activities with more than 500 military and/or civilian personnel must implement and maintain a back injury prevention and control program. Other activities and units are encouraged to establish a program commensurate with and tailored to their needs. Echelon 2 commands shall provide appropriate assistance to assure the effectiveness of these programs. Accordingly, the actions identified below shall be taken.

a. Commanders, Commanding Officers, and Officers in Charge shall:

(1) Analyze mishap data for the last five years to identify the number, frequency, type, location and cost of back injuries.

(2) Based on the above analysis, develop and maintain a back injury prevention and control program targeted to those areas, operations or personnel with the highest frequency of back injuries. The guidelines contained in enclosure (1) should be used as applicable in the development and maintenance of your program. Enclosure (2) provides references for training resources in program development.

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OPNAVNOTE 5100

(3) Coordinate the medical aspects of the program with the cognizant local Naval Medical Command activity per reference (d). Reference (d) sets forth Navy policy with regard to conducting medical examinations of civilian employees (see also enclosure (1), paragraph 1c).

b. The Commander, Naval Medical Command shall provide medical support in the form of development of therapy and treatment programs; coordination, as requested by activities, in the development of physical requirements for positions; and assistance to activities in determining and implementing limited or light duty programs. The Naval Medical Command shall place special emphasis on preplacement and periodic examination of employees at major shore activities, where such examinations are permissible and appropriate.

c. Commander, Naval Safety Center shall develop a mishap analysis program to identify back injuries by activity and command including number, type (traumatic or degenerative), age group, and operation performed.

d. Echelon 2 commands shall provide supplemental guidance and assistance to activities in implementing their back injury prevention programs. Back injury prevention program efforts shall be incorporated into command goals.

5. Cancellation Contingency. When incorporated in a revision to reference (e).

/s/

T. J. HUGHES  
Deputy Chief of Naval  
Operations (Logistics)

Distribution:  
SNDL Parts 1 and 2

KEY ELEMENTS IN MANAGING A BACK INJURY PREVENTION PROGRAM

1. Provide a comprehensive preplacement examination program to identify personnel who have a history of back injuries, and to assure personnel meet the physical requirements for the position in which they are placed. As part of this program:

a. Research insurance records, medical records, injury compensation claims records, and any other injury records for past injuries or claims before placing personnel in jobs that may aggravate an existing condition.

b. Assure appropriate medical support is available to perform the preplacement examination.

c. Assure adequate and reasonable physical requirements are established for each position. Where analysis of mishap data has resulted in the identification of positions that involve a significant risk of back injury, the presence and/or adequacy of existing physical standards should be examined. As warranted, consistent with the provisions of OPNAVINST 12000.14 CH-89, physical requirements may be established for civilian positions. Personnel who occupy a position with physical or medical standards, physical requirements or which is under a medical surveillance program may be required to undergo medical evaluation periodically, or whenever there is a direct question about a persons continued capacity to meet the physical or medical requirements of the position.

2. Provide follow-up medical care for injured personnel. As part of this program:

a. Assure medical support is available to provide medical examinations, treatment and case reviews.

b. Establish procedures to assure adequate medical and management review of cases to initiate modification of work or recommend suitable work for light duty candidates.

c. Provide, to the extent possible, wellness programs (diet, exercise, backcare, and stress).

Enclosure (1)

3. Provide a job analysis program to determine the actual physical work required by jobs. As part of this program:

a. Establish a prioritized program (based on risk and injury experience) to review work assignments to eliminate as much as possible repetitive heavy lifting, pulling and pushing tasks (which account for most spinal disease cases).

b. Establish a goal of limiting the normal maximum lift a single unassisted individual should make. A generally recognized limit for normal unassisted lifting is (40) pounds. While it is recognized that some heavy lifts cannot be avoided, many lifting operations can be designed to require assistance of other personnel or the use of mechanical handling equipment.

c. Establish an ergonomics program to assure appropriate review of operations, facilities and equipment, and initiate operational and other changes to reduce stress and the potential for back injury. This should include a prioritized review of operations to determine where restrictions or reductions can be obtained in weightlifting, twists, turns, lifting heights, operational heights, etc.

4. Establish training programs in back injury prevention and care. Training should include ergonomics training for cognizant engineers and engineering technicians; specialized supervisory training in lifting techniques, back injury prevention, operational design and back care; and employee back injury prevention and care training including wellness and physical fitness. Training programs shall be integrated into existing safety and occupational health curricula or other job training wherever possible.

5. Establish a strong management posture to control and reduce back injuries including the following:

a. Assure effective back injury investigations and analyses are conducted to uncover the root causes of back injuries.

b. Establish an aggressive program to manage and control compensation claims, assuring proper review, processing and administration. Any employee on injury compensation or assigned to light duty for whom the activity has identified a position which it reasonably believes the employee can perform may be required to report for medical evaluation.

c. Establish an effective return to work program including light duty, job restructuring, and rehabilitation.

LIST OF RESOURCES AVAILABLE FOR USE IN MAINTAINING  
A BACK INJURY PREVENTION PROGRAM

- |   |   |
|---|---|
| 1. NAVSEA Safety School<br>400 E. 7th Street<br>Bloomington, IN 47405-3085<br>AUTOVON 482-1432/1517<br>(812) 334-4330 | Training Moduel (TM) - 8<br>Manual Materials Handling   |
| 2. The Back Care Center<br>214 Laird Drive<br>Toronto, Canada M4G 3W4<br>(416) 425-4393                               | Audiovisual Programs/<br>Literature and Training<br>Manuals   |
| 3. Fireman's Fund Risk Management<br>Services, Inc.<br>Box 3890<br>San Rafael, CA 94911<br>1-800-227-0765             | Audiovisual Programs  |
| 4. Krames Communications<br>312 90th Street<br>Daly City, CA 94015-2621   | Booklets/Brochures - "Back<br>to Backs - A Guide to<br>Preventing Back Injury"/<br>"Back Owners Manual" |
|   | Poster - "Use Good Body<br>Mechanics"   |
|   | Audiovisual - "Think Back -<br>Back Injury Prevention for<br>the Good Life"                             |
| 5. Channing L. Bete Co., Inc.<br>200 State Road<br>South Deerfield, MA 01373  | Booklets - "You and Your<br>Back"/Moving Things Safely"   |

Enclosure (2)

6. National Safety Council  
444 N. Michigan Avenue  
Chicago, IL 60611  
(312) 527-4800  
  
Audiovisuals - "Oh, My Aching  
Back"/"Back Injury Prevention  
Through Ergonomics"/Lifting  
Calculator"/Back Injury  
Prevention and Rehabilitation"  
  
Program - "Back Injury  
Prevention and Rehabilitation"/  
4 1-hour video cassettes and  
participant's Manual  
Manual - Dr. David Imrie's  
Goodbye Backache
7. National Technical  
Information Service  
5285 Port Royal Road  
Springfield, VA 22161  
  
NIOSH "Work Practices Guide  
for Manual Lifting" (NTIS  
PB 821-789-48) \$17.50
8. OSHA  
Safe Lifting  
Washington, D. C. 20210  
  
Self-addressed envelope for  
bulletin discussing "Safe  
Lifting"
9. OSHA Publication  
Distribution Office  
U. S. Department of Labor  
Room N-4101  
Washington, D. C. 20210  
or nearest  
OSHA Regional Office  
  
Booklet - (OSHA 3071) - Job  
Hazard Analysis
10. "Professional Safety"  
Magazine September  
1985 issue  
  
Article - "A multidisciplinary  
approach for reducing back  
injury disability" by Dan James
11. Essential Safety  
Products, Inc.  
P. O. Box 610  
Boonville, CA 95415  
  
Training Aid - Back Box 11/  
Lift Angle Sensor

- |   |  |
|---|--|
| 12. Delaware Valley Safeguards<br>Leesport, PA 19533<br>(215) 926-5232                                  | Back Support Device - Air<br>Belt - manufactured by<br>Pneumedic Corp.,<br>Mechanicsburg, PA 17055 |
| 13. Visucom Productions, Inc.<br>P. O. Box 5472<br>Redwood City, CA 94063<br>(415) 364-5566             | "PRO - Back" (videotape and film)  |
| 14. Tel-A-Train, Inc.<br>P. O. Box 4752<br>309 North Market St.<br>Chattanooga, TN 37405                | "Minimizing Back Strain on the<br>Job" (videotape and film)  |
| 15. Industrial Training<br>Systems Corp.<br>11260 Roger Bacon Dr.<br>Reston, VA 22090<br>(703) 435-7300 | "Back Talk" Slide Tape with<br>employee handouts   |

SECNAV INSTRUCTION 1010.10

From: Secretary of the Navy  
To: All Ships and Stations

*Draft*

Subj: HEALTH PROMOTION PROGRAM

- Ref: (a) DOD Directive 1010.10 "Health Promotion", 11 March 1986
- (b) OSHA 29 Code of Federal Regulations (CFR) 1910 of 1971
- (c) Secretary of Defense Memorandum, "Smoking", 10 March 1986
- (d) SECNAV Instruction 5100.13 "Smoking/Tobacco Use in the Navy and Marine Corps"
- (e) DOD Directive 1308.1, "Physical Fitness and Weight Control Program", 29 Jun 1981
- (f) Secretary of Defense Memorandum, "Employees Fitness", 9 Jun 1983
- (g) SECNAV Instruction, "Physical Readiness Program", \_\_\_\_\_ NOTAL
- (h) SECNAV Instruction 5401.3, "Policies for Morale, Welfare, and Recreation Activities", 8 July 1982
- (i) Presidential Memorandum of 11 October 1983 ( )
- (j) SECNAV 5100.10E "Department of the Navy Safety and Occupational Health Policy; Implementation of", 14 Feb 1983 (NOTAL)
- (k) DOD Manual 1338.10M, "Manual for the Department of Defense Food Service Program", 22 Nov 1978
- (l) DOD Directive 3235.2, "DOD Food and Nutrition Research, Development, Testing and Evaluation, and Engineering Program, 20 Apr 1983
- (m) DOD Directive 1010.4, "Alcohol and Drug Abuse by DOD Personnel", 25 August 1980
- (n) DOD Instruction 1010.5, "Education and Training in Alcohol and Drug Abuse Prevention", 5 Dec 1980
- (o) DOD Instruction 1010.6, "Rehabilitation and Referral Services for Alcohol and Drug Abusers", 13 March 1985
- (p) SECNAV 5300.28A, "Alcohol and Drug Abuse Prevention and Control", 17 June 1984
- (q) Medical



# Draft

## 1. Purpose.

This instruction establishes a comprehensive health promotion policy within the DON to promote individual and organizational health for optimal military readiness.

## 2. Applicability and Scope.

This instruction is applicable to all Navy and Marine Corps personnel and retirees, their families, and where specified, civilian employees.

## 3. Background.

The Department of Defense requires healthy people to serve and defend the nation as described in reference (a). Military services and their members have a joint responsibility to maintain an optimal state of health and well-being. It is estimated that 50% of death and illness in the United States directly relates to unhealthy lifestyle, primarily poor diet, lack of exercise, alcohol abuse, smoking, and unmanaged stress. Additional compromises to good health and optimal productivity result from undiagnosed or inadequately controlled hypertension (high blood), and significant incidences of low back injuries. Application of preventive maintenance principles to the management of personnel resources will maximize human performance, availability and sustainability. Positive lifestyle change is the basic prerequisite for program success, therefore, all echelons of command within Navy and Marine Corps must be dedicated to long term policy implementation.

## 4. Policy.

It is SECNAV policy to:

- a. Ensure the existence of a work site environment conducive to improving and protecting health.
- b. Support and encourage individuals in the management of their own health and lifestyle decisions.
- c. Develop a comprehensive health promotion program to include the following elements:
  - (1) smoking prevention and cessation
  - (2) physical fitness and sports

# Draft

SECNAVINST 1010.10

- (3) back injury prevention
- (4) nutrition education and weight/fat control
- (5) stress management
- (6) alcohol and drug abuse prevention
- (7) hypertension screening, education, and control

d. Integrate, as applicable, the activities of medical, personnel, training, supply, safety, public affairs and research.

e. Implement for each program element a plan which addresses educational strategies, assistance programs, publicity/marketing and program evaluation/effectiveness.

f. Implement through the Navy and Marine Corps a Health Promotion Program coordinated per reference (a).

5. Guidance. The following specific objectives for each program element plan are:

## (1) Smoking Prevention and Cessation

The Policy defined by references (a), (b), (c), and (d) will be incorporated into the overall Navy health promotion program strategy. Programs will be developed to create a healthy social and work environment that discourages the use of tobacco products, supports abstinence, and provides smokers with encouragement and professional assistance to resolve their tobacco/nicotine dependence.

## (2) Physical Fitness and Sports

In conjunction with the provisions of references (a), (e), (f), (g) and (h), programs will be created to encourage and assist all target populations in developing a healthy exercise lifestyle thereby contributing to the establishment and maintenance of required levels of physical conditioning. Programs will provide safe exercise equipment/facilities, appropriate supervision, trained instructors, diverse exercise/sport options and recognition of fitness/achievements.

*Draft*

SECNAVINST 1010.10

(3) Back Injury Prevention

As addressed in references (i) and (j) back injury prevention programs will be developed and targeted to those populations demonstrating the highest frequencies of back injuries. Specific areas of program emphasis will include assisting individuals in the development and maintenance of healthy back habits and establishing a safe work environment to reduce injury.

(4) Nutrition Education and Weight/Fat Control

In conjunction with the provisions of references (a), (e), (k) and (l) programs will be developed to encourage and assist all target populations in establishing and maintaining dietary habits which contribute to good health, disease prevention, and weight/fat control. Attention will be directed at educating members concerning principles of nutrition and health/weight control interrelationships and providing menu options at all food service facilities consistent with current nutrition guidelines.

(5) Stress Management

As addressed by reference (a), programs will be developed to reduce environmental and organizational stressors and improve stress coping skills. Specific areas of program design shall include leadership practices, work policies/procedures, and habitability issues that promote productivity and health.

(6) Alcohol and Drug Abuse Prevention

Existing programs defined by references (j), (m), (n), (o), and (p), will be incorporated into health promotion program strategy and will continue to provide a prevention emphasis. Additional areas of program attention will address educating the target populations on such topics as pregnancy and alcohol/drug use and driving while intoxicated.

(7) Hypertension Screening, Education, and Control

In conjunction with the provisions of references (a) and (g), programs will be developed for the early identification of hypertension, the education of target populations regarding high blood pressure control, related lifestyle factors, and the dissemination of public information emphasizing the dangers of hypertension.

5. Action. Addresses are directed to implement the actions required by this instruction.

STRIVING TO PREVENT BACK INJURY  
A HISTORICAL PERSPECTIVE

MAJ J. Robert Wrinkle

A short review of the Army's Safety Communities' history to develop programs to reduce back injury accidents is provided. Most Army programs were targeted at education and awareness issues and at managing continuation of pay (COP) as related to reported back injury.

The number of reported Army on-duty injuries to backs of civilian personnel from FY 74 to date has steadily risen (Encl 1). The trend has been steadily upward over the past ten years with a slight dip in the FY 80-81 time period. This data represents all reported back injuries because sprains and strains could not be easily separated from the earlier data. However, strains and sprains were the dominant accident reported involving backs. The dotted line indicates that in 1981 a different version of the DA Form 285 accident report began to be used. Without extensive analysis, we do not know if changing the form affected the numbers as depicted. FECA claim data using lower back as the location for the injury/claim for the year and a half available in the USASC data base is also shown in Encl 1.

In 1979, HQDA undertook as one of the 4 Army Safety objectives an emphasis program to reduce the number of civilian personnel injuries. This program gave special emphasis to managing the continuation of pay provisions of FECA and preventing back injuries. The 1979 back injury prevention program had two targets--the general civilian population and specific job specialities.

For the general population program, a packet of supporting information was sent thru the MACOMs for use in back injury prevention programs. The packet contained an Analysis of Civilian Back Injuries, Engineering/Management Approaches to Back Injury Prevention, Education and Promotion Approaches to Back Injury Prevention, and posters depicting proper lifting techniques. The statistics reflect the limited success of the program which stopped the steady uptrend for two years. The information from the engineering/management, and education and promotion approaches was incorporated into DA Pam 385-8 which was published in June 1985.

The second element of this program was identification of specific job specialities which have high reported instances of back injury. An analysis of back injuries during that period found that 8% of the job series accounted for 60% of the back injuries. An attempt was made to target those occupations having the most back injuries hopefully resulting in significant reductions at a minimal cost. This idea was never fully validated.

In 1979, AMC adopted a countermeasure program similar to the Army program. The kit they sent to their safety managers contained back facts, a listing of safety promotion/education materials, back injury control checklist for supervisors, model letter to supervisors, several supervisor safety briefs, engineering approaches to back injury prevention, management approaches to back injury prevention, and managing the safety implications of continuation of pay.

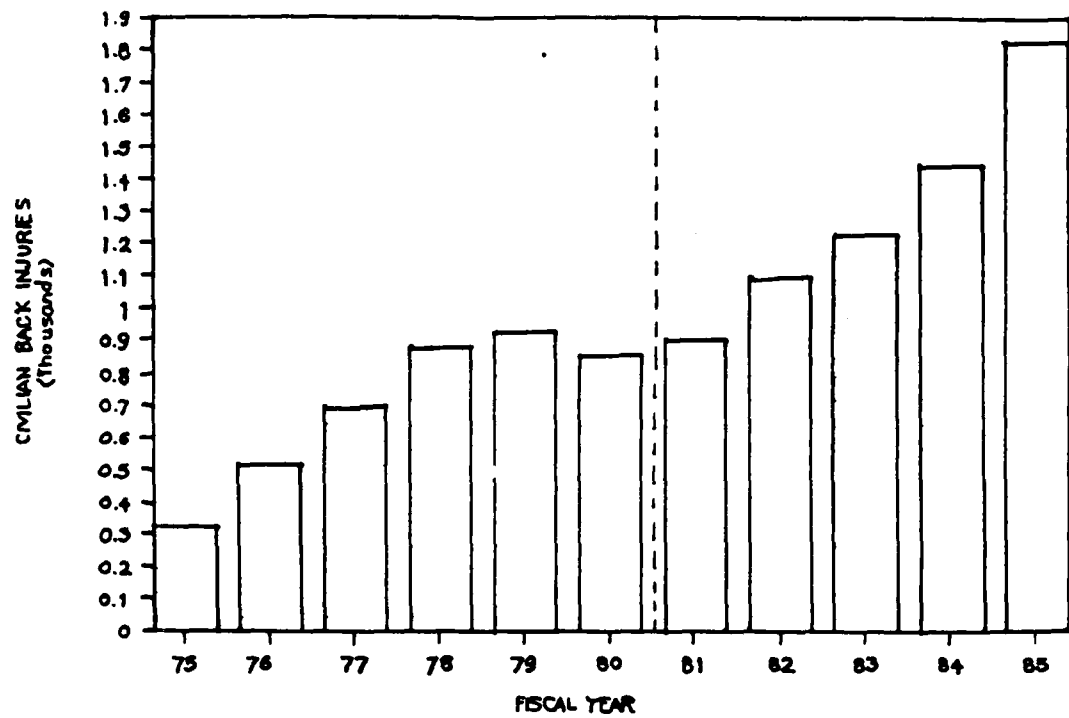
Both the Army and AMC programs assumed that 90% of all sore backs are due to disease or degeneration and are not accident events. They accepted the premise that workers have a strong economic incentive to convince themselves that their bad back resulted from on-the-job activity. This explains the COP information included. Prevention information was provided concerning the use of behavioral modification techniques, management intervention in the form of pre-employment physicals, identification of back injury prone jobs, investigation of back injury accidents and worksite hazards, and engineering approaches in the form of eliminating the need to lift, push, or pull heavy items.

AMC updated the program in 1983 after the number of back injuries again began to rise. The updated program addressed the role of the Commander and Top Management, Post Surgeon, Civilian Personnel Office, Supervisors, and Safety Managers in preventing back injuries. A section was added addressing light duty provisions of AMCR 690-2. The emphasis was that many people are not completely incapacitated when injured and most people feel better when they are active to some extent. AMC is again experiencing a surge in back injuries reported and will publish soon the next update of their program.

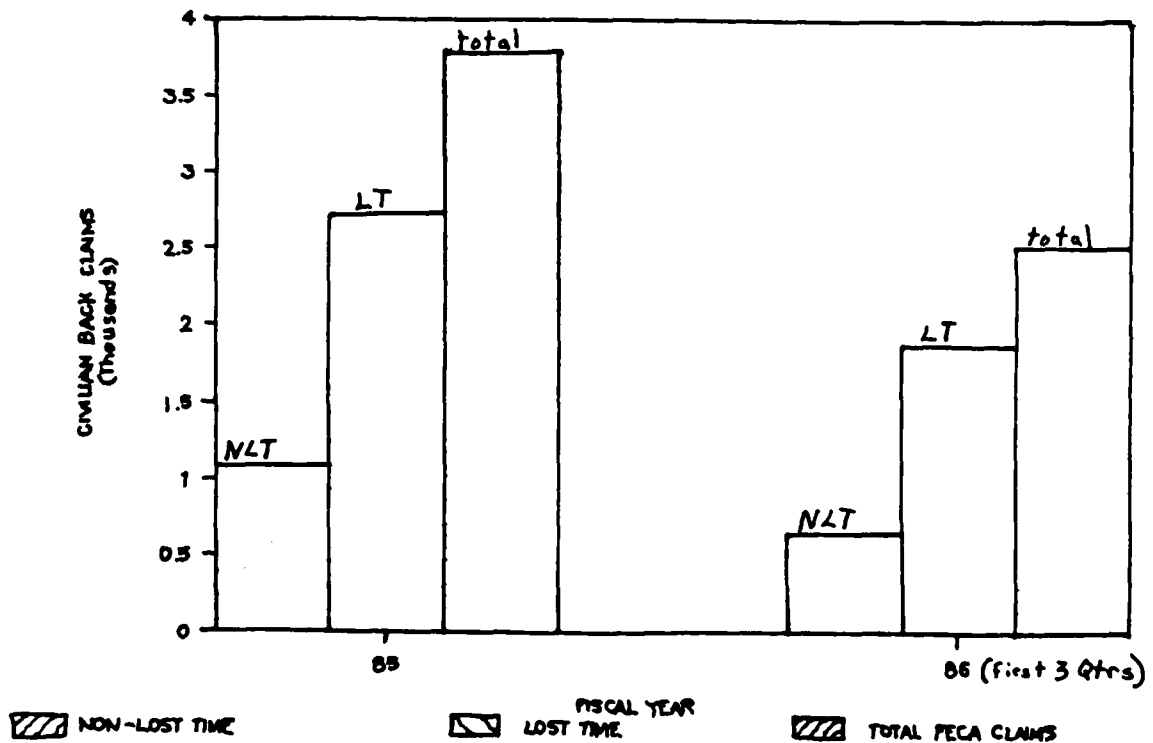
Various approaches have been employed within the Army safety community for reducing back injuries. Accident statistics show that despite the efforts of individual commands, the number of back injury accidents continues to rise throughout the Army. Programs at HQDA, and MACOM levels have emphasized proper lifting techniques, engineering design, management approaches, and management of COP. Local programs are varied and based on the knowledge of the key players at the command.

Enclosure 1

DA Form 285



FECA DATA



## THE DATA PICTURE--COLLECTION AND USE

Rosalene Graham

The Army Safety Management Information System (ASMIS) contains data relating to back injuries and exposure. This information is available to track the progress of any policy or programs resulting from this workshop. Before leaving this week, a critical question must be addressed.

What is our measurable goal? Whatever goal we set for this program should be compatible with the goals each of us has and the presidential goal.

Should the goal be rate-based? Rates based on population exposure are important if comparing one MACOM with another or one installation with another or charting total progress over a specified time period.

The members of the executive committee will have to assess which of the available information will be used to follow the program's progress.

Within ASMIS, two potential sources of information are available--the DA Form 285, the Army's accident reporting form, and the Department of Labor Office of Workers' Compensation tapes containing FECA claim data.

Because the Presidential goal and our goal will be tied to reducing compensation costs and numbers, only the availability of FECA data will be presented. Two sets of FECA data is in the ASMIS--the monthly Table II tape and a quarterly updated chargeback tape.

The monthly Table II tape contains information concerning new cases which has not been purged of any errors. No cost data is available on this tape. Currently, monthly tapes from Oct 84 to Jun 86 are on line and is the only FECA data available by remote terminal.

The quarterly tape is the updated chargeback tape. During each quarter as changes are made to the open claims and costs accrue--the chargeback tape is updated and sent to the USASC at the end of the quarter. It contains all active claims during the quarter. Cost data on this tape is available by DOL fiscal year which is July to June. No totals for claims spanning more than one fiscal year is available. This tape is not on line for remote terminal retrieval but information is available by request to our DOIM.

If the executive committee agrees to use a rate-based goal, both numerator and denominator data is necessary. Numerator data is the number of claims, injuries, cost, etc. The denominator data is exposure data usually in workhours, workdays, or workyears.

Exposure for civilian workhours is available within ASMIS but the USASC recommends that CIVPERCEN provide strength figures for computing rates. Civilian workhours are reported to the USASC quarterly by the local command safety office using a DA Form 2398. It cannot be purely refined by servicing CPO because it is gathered by command. Comparison using USASC exposure data would necessitate comparisons only by major command.

The ASMIS can be used to track claim costs and numbers. If a rate-based goal is recommended, the exposure data should be obtained from CIVPERCEN.



AN APPROACH TO THE REDUCTION OF INJURIES AND SUBSEQUENT CLAIMS  
INVOLVING THE BACK IN DOD - A SYNOPSIS

LTC Douglas Kersey

We have gathered to discuss the development of a plan to reduce FECA claims involving people with back injuries. This is a worthy endeavor and one about which comptrollers and claims people are intensely interested. Long before the hue and cry was heard to balance the budget and reduce compensation claims, I became aware of the many people seen in our treatment facilities complaining of back pain. Their histories are all so similar often involving an incident of "heavy" lifting with consequent strain but just as often there was no history of trauma or known strain. The initial attempts at alleviating the problem most always involved dispensing of various medications to control pain and spasm along with prolonged periods of rest until the problem resolved. Chronic sufferers would then generally be referred to a physical therapy department where treatment regimes were varied but most generally included applications of moist or dry heat or ice and very specific exercise program. Unfortunately the prescription for the exercise was very precise and the reasoning behind said program was often omitted. When patients were given numerous treatments with varying modalities and had followed their exercise prescriptions exactly, if their distress continued it could be through no fault of their own. As medical care providers we were made responsible for and unfortunately accepted responsibility for what our patients were experiencing. In 1975 while assigned to Darnall Army Community Hospital, Ft. Hood, Texas, I reasoned that this was not only unfair and unreasonable for me to accept responsibility for another's feelings but more importantly detrimental to the well being of all those we referred to as patients. These people had a great deal in common. They generally noted increased symptoms with protracted standing, sitting, bending, "heavy" lifting. Often times the recognized ascribable injury occurred months and even years prior to the present episode. With these thoughts in mind, I developed an educational program designed to educate others as to why they were experiencing those noxious stimuli they referred to as pain. We entitled the program "The Real Low Down On the Back" as a sort of play on words. The initial program utilized slides and a cassette tape because I could do this without assistance. I later acquired the assistance of the TASC who filmed a 29-minute version of the program. Each of these audio-visual presentations were followed with 45 to 60 minutes of further lecture, demonstration and participation for those who were referred for treatment of back pain. We have presented this 90-minute program every Monday and Thursday at 1500 hours initially at Ft. Hood and now at Ft. Knox since early 1976. I immediately made contact with the safety personnel on post, the occupational health office and anyone who could gain me admittance to speak to any and all people on post whether military or civilian concerning care and prevention of back pain. In addition I spoke to any

civilian organizations off post always beginning the presentation by asking if there were those present who could honestly say they had never experienced back pain. It was and continues to be rare that anyone relates never having experienced episodes of back pain. I feel very strongly that there is no one to whom this information would not apply. My role is to be that of an interpreter because I feel I probably speak the bodies language better than most drawing not only upon my professional training and experience as a physical therapist but also upon my athletic background which now constitutes thirty-one years as a runner. My goal for each person is to enhance their awareness as to why they are experiencing those sensations they refer to as pain. The better we understand our bodies and how they function, the better we can cope with our perceptions of pain.

A basic outline for the program would include.

- I. The Magnitude of the Problem
- II. Possible Causes Over Which Each Individual Has Control
- III. Body Mechanics to Decrease Postural Stresses
- IV. Pelvic Tilt, Wing Arm and Mobility Exercises
- V. Modifying Behavior as Opposed to Adopting an Exercise Program
- VI. Presence of DJD, Congenital Abnormalities and Abnormal Curves, and their Relationship to Perceptions of Pain
- VII. The Power of a Positive Self-Image and the Sharing of Ones New Found Awareness with Others

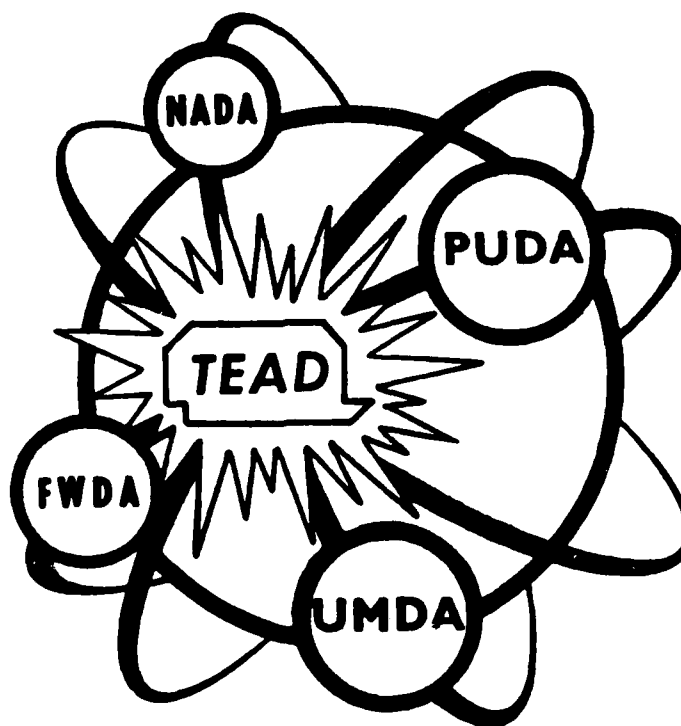
This program is available on 3/4" tape and I have mailed copies to greater than 100 agencies to include active military units, various state National Guard and Enlisted Reserve units, safety directors at various AMC installations and other Federal agencies to include several districts U.S. Corps of Engineers, the U.S. Census Bureau in Jeffersonville, Indiana, etc. The responses have all been positive from the various program directors. I have presented to the National Guard Safety Meeting in Little Rock, Safety Directors from across the country in Louisville and to employees at Anniston Army Depot in Alabama and Tobyhanna Army Depot in Pennsylvania to name only a few. These have been my attempts at addressing this problem somewhat singularly. I feel it would be useful to develop a program format that can be used throughout DOD.

## "BACK" ON THE JOB SAFELY

Ron Buttry

The Army Materiel Command is responsible for a wide variety of missions. By the very nature of AMC's missions, and highly diversified work force, workers' compensation is a high priority item. This command has emphasized the reduction of job related injuries and illnesses for the past several years. While procedures vary from installation to installation, all workers' compensation programs include: direct involvement by commanding officers; emphasis on safe work sites and conditions; personal attention to injury and illness claims; meetings with injured employees and supervisors; investigations and controversions; availability of light duty assignments and reemployment programs.

There are many back programs in use throughout the command. An example, which has proven effective in bringing about claims reductions, is the Tooele Army Depot's (TEAD), "BACK' On the Job Safely", training program. A copy of the TEAD training program was provided during the workshop for review and consideration by the U.S. Army Environmental Hygiene Agency. This training program appears applicable for DA wide implementation.



# DISPOSITION FORM

For use of this form see AR 340-15 the proponent agency is TAGO

REFERENCE OR OFFICE SYMBOL	SUBJECT		
SDSTE-CPO-RPT	Attendance Request for in Back Safety Education Class		
TO Through	FROM	DATE	CMT 1
	Workers' Compensation Administrator		
<p>1. Your employee has incurred a back injury. As a result, your employee is scheduled to attend the Back Safety Education Class.</p> <p>2. The Back Safety Education Class is scheduled for:</p> <p>TIME: _____ DATE: _____ LOCATION: _____</p> <p>3. This training is equivalent to a mandatory driver's education training for a motorist involved in an accident, regardless of fault.</p> <p>4. A prime target to reduce back injuries and costs is in the area of repeat injuries. This Back Safety Education Class will educate the injured employee about proper body positions and movements to protect the back. Also the employee will learn the vocational realities of continued back problems including placement into another job or separation from TEAD Complex.</p> <p>5. Plan on your employee being away from the work station for 2 hours and 40 minutes plus transportation time to and from the class.</p> <p>6. Inform your employee of this class with this notice. If your employee is uable to attend, call the Workers' Compensation Office, x2540, to reschedule.</p> <p>William Simmons Workers' Compensation Administrator</p> <p><i>Sample</i></p>			

# DISPOSITION FORM

For use of this form, see AR 340-15. The proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL

SDSTE-CPO-RPT

SUBJECT

Back Safety Education Class

TO SEE DISTRIBUTION

FROM Civilian Personnel

DATE

26 July 1985

1. The attached back safety training is recommended for all TEAD Complex employees who incur a back injury. This training is equivalent to a mandatory driver's education training for a motorist involved in an accident.
2. On-the-job back injury occurrences at TEAD Complex represent over 40% of all our compensable injuries and the bulk of our insurance costs.
3. A prime target to reduce back injuries and costs is in the area of repeat injuries. This Back Safety Class will educate the injured employee about proper body positions and movements to protect the back. Also the employee will learn the vocational realities of continued back problems including placement into a lower grade job or separation from TEAD Complex.
4. Employees required to attend will be notified and coordinated through the Safety Office and CPO.
5. A draft of this Back Safety Training Package has received concurrence through CPO, the Safety Office, and Maintenance Directorate Safety Council.
6. Request your review and comments by 16 August 1985.

VIRGINIA HOGAN  
Civilian Personnel Officer

## DISTRIBUTION:

D/Ammo Opns  
D/Ammo Equip  
D/Admin & Svcs  
Cdr, UMDA  
Cdr, PUDA  
Cdr, FWDA  
D/CAMDS  
D/Maint  
D/MIS  
D/QA  
D/Resource Mgt  
D/Supply  
CPO  
D/Health Svcs  
Adj  
Admin Spec  
EEOO  
Chief, Safety Office

*Sample*

## "BACK" ON THE JOB SAFELY

Lesson plan has been developed for TEAD Employees who have been injured on the job. It is designed to be an educational tool to prevent injuries to the back, shoulder, or neck areas primarily as a result of material movement and handling or slips, trips, and falls. It is also intended to inform injured employees of their safety performance responsibilities.

### Instructors for Course:

1. Safety Office Official
2. Administrator of Workers' Compensation (Division of Personnel)
3. Occupational Health Nurse or Health Clinic Official
4. Representative from Personal Services

### Necessary Materials:

1. 1 Television
2. 1 VCR
3. 1 Video Cassette ("Reducing Back Strain" by Teletrain)
4. 1 Large cardboard box to be used as a bin
5. 3 Cardboard boxes of various sizes that are commonly found in work areas
6. A shelf at least 5' in height to place a cardboard box on to be used in demonstration
7. 2 tables at least 12" in height to be used in demonstration
8. 15 handouts of "Rules to Live By From Now On"
9. 15 handouts of "Helpful Hints for a Healthy Back" "Exercises"
10. 15 handouts of "Back-Saving Tips"
11. Copy of Lesson Plan
12. Form SDSTE 2822--"Installation Training--Attendance & Rating Record". This form will be signed by all employees who attend class and sent to training office for permanent records and copies kept by OWCP, Safety, and Personal Services.

### Class Format:

The class will begin at 1300 hours and will last 2 hours and 40 minutes at which time employees will return to their work areas. There will be two 10 minute breaks.

### SCHEDULE OF CLASS EVENTS

- |               |    |   |
|---------------|----|---|
| 10 Minutes    | 1. | Opening Introduction and Remarks from Safety.   |
| 10 Minutes    | 2. | Opening Introduction from OWCP Administrator (Division of Personnel).                             |
| 40 Minutes    | 3. | Video Cassette " <u>Reducing Back Strain</u> " by Teletrian.                                      |
| 10 Minutes    | 4. | Break for Students (No smoking in Classroom).   |
| 15-20 Minutes | 5. | Lecture on Pain Control by Personal Services Officer or representative. <u>Pass out handouts.</u> |
| 40 Minutes    | 6. | Demonstration of Proper Lifting Procedures, and other helpful hints.                              |
| 10 Minutes    | 7. | Break for Students (No smoking in classroom).   |
| 20 Minutes    | 8. | Lecture on Pain Control by Personal Services Officer or representative. <u>Pass out handouts.</u> |
- \* Students ask to return to work areas.
  - \* At the beginning of class make sure students fill out training roster, and that all students have signed before leaving.

### GOALS OF BACK INJURY PROGRAM

1. The student will know how to lift properly to minimize back strain and demonstrate that ability.
2. The student will describe the structure of the back and the types of back injuries that are a result of improper actions that can cause physical harm to the back.
3. The student will state the services that are offered by our Health Clinic (doctors, technicians, and occupational health nurses) to help them to adapt to the problems that are a result of back injuries and what preventive actions to take.
4. The student will be informed that the Tooele Army Depot will work closely with physicians and the injured to provide light duty and restricted duty for those who have sustained back injuries.
5. The student will describe situations in which he/she should get help with heavy items or awkward items before trying to move them.
6. The student will explain alternatives to carrying loads over long distances.
7. The student will discuss loads which can and cannot be pushed and pulled without the aid of material handling equipment (MHE).
8. The student will respond that it is better to push material than pull material when using material handling equipment.
9. The student will explain that in most cases it is better to move items utilizing material handling equipment.
10. The student will demonstrate the best method of moving material in and out of a bin.
11. The student will demonstrate how to lift an item up and down from a shelf.
12. The student will verbalize that many backaches and problems are not due necessarily to the working environment but such causes as poor posture, poor physical conditioning, athletic injuries, wear and tear due to age, and simple actions of improper movement, stretching, or twisting.



13. The student will discuss that it is of the utmost importance to inform supervisors, safety, or health services when material handling processes seem to involve excess strain or the risk of back injury in order for preventive measures to be taken.

14. The student will discuss that legitimate back injuries, as well as possible aggravation of pre-existing back problems, can be significantly reduced through good job practices by employees, good supervision by supervisors, and through good task design and provisions for material handling equipment by supervisors and middle management.

## SCHEDULE OF BACK INJURY PROGRAM

### 1. Opening Introduction and Remarks by Safety

My name is \_\_\_\_\_. I work at the Safety Office at TEAD. This is \_\_\_\_\_, he/she works at the Division of Personnel at TEAD and administers the Workers' Compensation Program. This is \_\_\_\_\_. He/she works at the Health Clinic at TEAD and is responsible for occupational health and safety, and this is \_\_\_\_\_ and he/she works for the Personal Services Office and is providing the room, equipment, and some special guidance regarding the reduction of pack pain.

We are here for one purpose and that is to help you recover from your back injuries, reduce your chances of having another injury, and give you some information that you can share with fellow employees to help them reduce their chances of suffering a back problem or injury on the job.

We are concerned about your personal well being and health. We are also concerned about the health costs, lost production, and compensation costs that back injuries cost the Tooele Army Depot.

Civilian lost time injuries have been on the increase at TEAD over the last several years and almost 1/2 of these injuries are a direct result of injuries being related to back problems.

The Safety Office at TEAD believes that back injuries that are a result of accidents are not needed, are not wanted, are expensive, are painful and miserable for the injured, and above all else can be prevented.

The Safety Office believes in the 3-E approach to safety. We believe we should educate about safety, engineer out safety problems, and make sure safety rules are enforced.

Today we plan an extensive effort in educating you about how to prevent back injuries. Through an audiovisual presentation, lectures, handouts, and demonstrations of lifting procedures by you the student, we hope that we can provide you with solid and applicable information that can help you prevent back injuries.

## BACK INJURED EMPLOYEE EDUCATION PROGRAM

### Opening Statement by Administrator of Office of Workers' Compensation Program:

I wish to welcome you to this back-education clinic, and I want to tell you of my concern for you and your injury. Nothing is more frustrating than a problem with back pain. This is especially true when your job depends on your ability to use your back.

This back-care clinic will not tell you what is wrong with your back or how to heal your injury. That is up to your doctor. You will learn here how to take care of your back to avoid further problems. Your careful prevention of back problems will be worth more than the best cures.

I will for my part here explain Tooele Army Depot's obligation to you. If you cannot perform all the duties of your job because of your injury, your employer must make light duty work available. You will work light duty until your doctor allows you to return to work full duty. If you are injured, both you and your supervisor each receive a statement of your limitations and your physical capabilities. If your supervisor asks you to do more than your statement allows, politely tell your supervisor no, you can't. If your supervisor asks you again to do more than your stated limitations, call the Workers' Compensation Office. I will personally check out the problem in a way that does not make your supervisor angry at you.

If you continue to have back problems, your supervisor must make a decision. Your supervisor must decide if your back problems interfere with your job performance. Performance problems could be excessive time away from the job. Inability to do required lifting, bending, or stooping could be a performance problem. If your supervisor decides your back problems affect your job, the depot may separate you from your job.

The best way to avoid further back problems is to follow the advice from this back clinic. Your supervisor will also receive injury prevention training in your behalf. So work together for your benefit, and remember the importance of an ounce of prevention. It beats a pound of cure.

3. Video Cassette "Reducing Back Strain"
4. Break for the Students
5. Lecture by Occupational Health Nurse

My name is \_\_\_\_\_ and I am an Occupational Health Nurse and represent the U.S. Army Health Clinic at TEAD.

I am specifically trained to deal with injuries on the job and have a very good understanding of the work environment at TEAD and the type of injuries we face on a daily basis.

Here at the Tooele Army Depot we have three doctors who are well schooled in the field of back injuries and understand that we have many cases of pulled ligaments, muscle strains, and shoulder strains here at TEAD. They have a great deal of experience in handling back problems and also understand the working environment at the depot.

The doctors at the Health Clinic will be able to prescribe light duty or restricted duty assignments for you, they can prescribe medication for you from our pharmacy free of charge, and they can refer you to an orthopedic specialist if they feel they cannot adequately handle your injury. Because they are on depot, they can be contacted by the OWCP Officials from Personnel and work closely with our administration to guarantee that light duty requirements are being followed. They have a vested interest in keeping our employees healthy and working at full capacity and are close at hand for follow-up visitations or advice on how to prevent future injuries.

If you are asked to see an outside specialist, you will need to make sure you work closely with our Office of Workers' Compensation Personnel to make sure your claims for doctor visitations and medications are paid.

Remember, if you feel back pain or discomfort on the job, come to the clinic after reporting it to the supervisor. The earlier a back problem is diagnosed and preventive action taken the better.

If you have had a back problem in the past and you feel your present work is aggravating the illness come to the clinic for a checkup.

Our doctors can ask the proper questions, check you for difficulties in movement, check the areas of pain, and even take x-rays if necessary to determine your problems or the extent of the injury. Because our doctors understand civil service and Army Regulations on light duty temporary assignments, they have an advantage in working with the injured employees at TEAD.

It is important that if in the process of lifting, twisting, etc., you feel a sudden sharp pain, don't tell yourself that it will feel better by morning after a good night of rest. Always take care of a back injury at the time you first notice any pain or stiffness. Quick treatment is the best policy.

It is important to realize that back injuries are not necessarily due to your job, but in most cases are aggravated by your physical activities at work. Medical studies show that 70% of all back injuries are due to natural causes basically the degenerative processes of age or other diseases. 20% are due to inflammations such as arthritis, urinary infections, etc. Only 10% are a direct result of an actual back injury that took place either on or off the job.

In order for you to prevent back injuries I can give you some helpful hints that you should follow both on and off the job.

1. When Sitting: Keep knees slightly higher than hips by placing feet on a low stool.
2. When Standing: Stand straight, chin tucked in, pelvis forward. If standing for prolonged periods, place one foot on a stool changing feet every so often.
3. When Walking: Maintain erect posture, making sure not to bend forward. A female should use alternate shoulders when carrying her handbag or satchel.
4. When Sleeping: Avoid sleeping on your stomach. Curl up on your side with a pillow between your knees or on your back with a pillow under your knees. Stay away from a soft or sagging mattress.
5. When Driving: Move car seat forward and sit with your knees higher than your hips. A small pillow behind your lower back provides added support.
6. Never exercise if you are experiencing back pain. Only exercise your back after you have your doctor's approval or you are presently in good condition.

\* The Occupational Health Nurse along with a safety official will demonstrate with a "dummy" the problems of lifting incorrectly showing what happens to muscles and vertebrae.

6. Demonstrations of Proper Lifting by Student, and Other Helpful Hints:

Demonstration #1: Each student will demonstrate how to properly pick up a regular box (empty) from a standing position in the middle of the floor. "Students will be allowed to critique each other."

Demonstration #2: Each student will demonstrate how to properly lift an empty box of moderate size to the top of a shelf at least 5' in height and then properly remove box from shelf back to floor level. "Students will be allowed to critique each other."

Demonstration #3: Each student will demonstrate how to properly lift a box from a table at least 12" above the floor and carry the box to another table at least 8' directly behind the first table and set the box down properly on the second table. "Students will be allowed to critique each other."

Demonstration #4: Each student will demonstrate how to properly lift a small box out of a bin. "Students will be allowed to critique each other."

Demonstration #5: Each student will demonstrate how to sit properly in a chair and discuss what can be done to help prevent back injuries if you sit for long hours. "Students will be allowed to critique each other."

Demonstration #6: Each student will demonstrate how to pick up a pencil from the floor, demonstrate proper posture or standing, and how to walk properly to protect your back from injury. "Students will be allowed to critique each other."

7. Break for Students

8. Lecture on "Techniques for Handling Pain" by Personal Services Officer.

Format: Open ended discussion with students on pain and the techniques that can be used for handling pain associated with back injuries.

Question #1 Addressed to students for responses. What is pain? Get definitions from students.

Question #2 Addressed to students for responses. Who gets it? Responses from group members.

Question #3 Addressed to students for responses. What do you do with in now? Responses from group members.

Lecture--Techniques for Handling Pain

- \* Distribute 3 handouts and discuss
- \* Make sure students have signed training sheet and dismiss class.

# RULES TO LIVE BY--FROM NOW ON

1. Never bend from the waist only; Bend the hips and knees.
2. Never lift a heavy object higher than your waist.
3. Always turn and face the object you wish to lift.
4. Avoid carrying unbalanced loads; Hold heavy objects close to your body.
5. Never carry anything heavier than you can manage with ease.
6. Never lift or move heavy furniture. Wait for someone to do it who knows the principles of leverage.
7. Avoid sudden movement, sudden "overloading" of muscles. Learn to move deliberately, swinging the legs from the hips.
8. Learn to keep the head in line with the spine when standing, sitting, or lying in bed.
9. Put soft chairs and deep couches on your "don't sit" list. During prolonged sitting, cross your legs to rest your back.
10. Your doctor is the only one who can determine when low back pain is due to faulty posture. He is the best judge of when you may do general exercises for physical fitness. When you do, omit any exercise which arches or overstrains the lower back: backward bends, forward bends, touching the toes with the knees straight.
11. Wear shoes with moderate heels, all about the same height. Avoid changing from high to low heels.
12. Put a footrail under the desk, and a footrest under the crib.
13. Diaper a baby sitting next to him or her on the bed.
14. Don't stoop and stretch to hang the wash; raise the clothesbasket and lower the washline.
15. Beg or buy a rocking chair. Rocking rests the back by changing the muscle groups used.



16. Train yourself vigorously to use your abdominal muscles to flatten your lower abdomen. In time, this muscle contraction will become habitual, making you the envied possessor of a youthful body-profile!

17. Don't strain to open doors or windows.

18. For good posture, concentrate on strengthening "Nature's corset"--the abdominal and buttock muscles. The pelvic roll exercise is especially recommended to correct the postural relation between the pelvis and the spine.

# BACK-SAVING TIPS

## AT HOME

### LARGE TOOLS

(rakes, hoes, shovels, etc.)

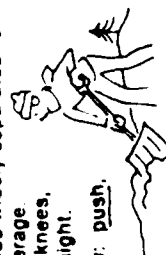
Choose lightweight tools with long handles. Stand near work instead of reaching.



### SHOVELING

Keep hands widely separated for good leverage. Lift with knees, back straight.

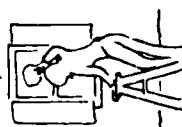
For snow: push, don't lift.



### CLIMBING

Use a sturdy ladder, firmly footed to avoid slipping. Move ladder instead of reaching.

Don't climb on tables, chairs.



### SMALL TOOLS

Put leverage to work -- use a block of wood under hammer or pry bar. Don't use a "cheater bar" to increase torque on a wrench. Keep all cutting tools sharp.



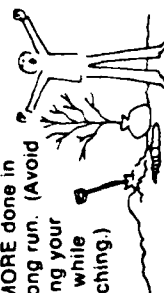
### MOVING HEAVY OBJECTS

Use work-saving devices -- slide on rug, shovel; use rollers, dolly, wheelbarrow, wagon, etc.



### STOP AND STRETCH OFTEN

It's good for your back, and you'll get MORE done in the long run. (Avoid arching your back while stretching.)



## ON THE JOB

### WHEN WORKING ON YOUR BACK

-- keep knees bent to flatten back and relieve swayback.



### WHEN WORKING LOW

-- bend knees deeply to relieve back strain.



### CATCHING FALLING OBJECTS

Is dangerous. When necessary, keep knees bent, back straight, feet firmly placed.



### WHEN DRIVING

-- keep seat forward so that knees are bent, higher than hips. Change positions often.



### DISMOUNT CAREFULLY

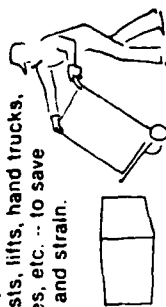
from platforms, vehicles, etc.

Use a ladder or lower yourself with your hands. Don't jump.



### USE LIFTING AND MOVING TOOLS

-- hoists, lifts, hand trucks, dollies, etc. -- to save work and strain.



### NEW JOB

that requires back work? Get in shape, go slow and use back-saving techniques.



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THE UNITED STATES ARMY LOW BACK PAIN WORKSHOP(U) ARMY  
ENVIRONMENTAL HYGIENE AGENCY ABERDEEN PROVING GROUND MD  
R PETZOLD JUL 86

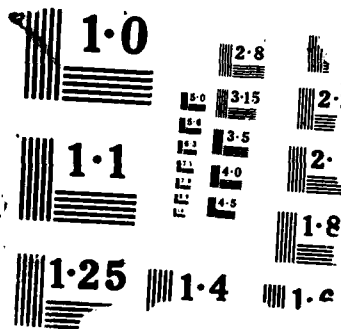
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## Exercises for better back care

### General Instructions

Your best back support is derived from your own back muscles! Faithful performance of back exercises often avoids the necessity of an external brace or corset. Back muscles can give you all the support needed if you strengthen them by routine performance of prescribed exercises.

### Exercises

Follow the exercise routine prescribed by your doctor. Gradually increase the frequency of your exercises as your condition improves, but stop when fatigued. If your muscles are tight, take a warm shower or tub bath before performing your back exercises. Do not be alarmed if you have mild aching after performing exercises. This should diminish as your muscles become stronger.

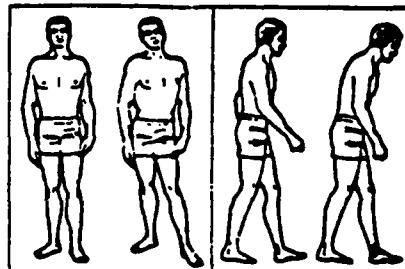
Exercise on a rug or mat. Put a small pillow under your neck. Wear loose clothing; no shoes. Stop doing any exercise that causes pain until you have checked with your doctor.

### Additional Instructions

SEE BACK OF THIS PAGE FOR PREVENTIVE BACK EXERCISES

## Helpful hints for a healthy back

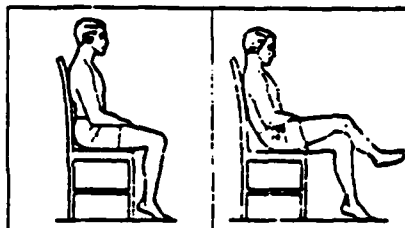
### Standing and walking



Correct Incorrect Correct Incorrect

Try to toe straight ahead when walking; put most of your weight on your heels; hold your chest forward and elevate the front of the pelvis as if walking up an incline. Avoid wearing high heels. Stand as if you are trying to touch the ceiling with the top of your head, eyes straight ahead. All the elements of good posture will flow from these simple maneuvers.

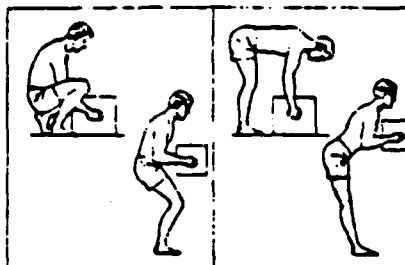
### Sitting



Correct Incorrect

Sit in a hard-back chair with spine pushed back, try to eliminate the hollow in the lower back. If possible, elevate the knees higher than hips while sitting in an automobile. Secretaries should adjust posture chairs accordingly. Sit all the way back in the chair with your back erect.

### Lifting

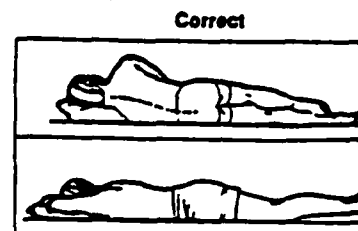


Correct Incorrect

Bend your knees, squat and lift with your thigh muscles, not your back. Never bend over with your knees straight and lift with the buttocks.

Move slowly and avoid sudden movements. Try to avoid lifting loads in front of you above the waist line. Avoid bending over to lift heavy objects from car trunks, as this places a strain on low back muscles.

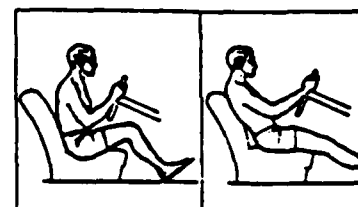
### Sleeping



Correct Incorrect

Sleep on a firm mattress; a 3/4 inch plywood bed board is helpful and should be used with all but a very firm orthopedic mattress. With acute back pain, sleep with a pillow or blanket rolled under the knees and a pillow under the head. Keep your knees and hips bent when sleeping on your side.

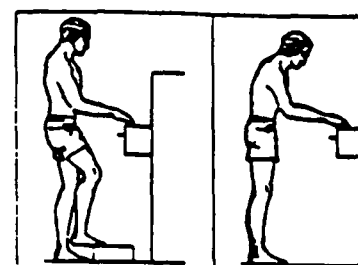
### Driving



Correct Incorrect

Use a firm seat with a padded plywood or special seat support. Sit close to wheel with knees bent. On long trips stop every one to two hours and walk to relieve tension and relax muscles.

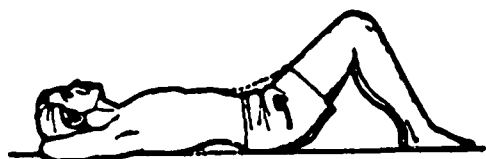
### Working



Correct Incorrect

Try to avoid fatigue caused by work requiring long standing. Flex hips and knees by occasionally placing a foot on a stool or bench. Take exercise breaks from desk work by getting up, moving around and performing a few back exercises in the standing position.

1.



Lie on your back with knees bent and hands clasped behind neck. Feet flat on the floor. Take a deep breath and relax. Press the small of your back against the floor and tighten your stomach and buttock muscles. This should cause the lower end of the pelvis to rotate forward and flatten your back against the floor. Hold for five seconds. Relax.



2.



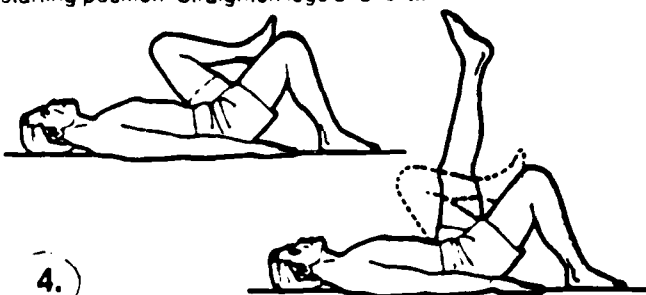
Lie on your back with knees bent. Feet flat on the floor. Take a deep breath and relax. Grasp one knee with both hands and pull as close to your chest as possible. Return to starting position. Straighten leg. Return to starting position. Repeat with alternate leg.



3.



Lie on your back with knees bent. Feet on the floor. Take a deep breath and relax. Grasp both knees and pull them as close to your chest as possible. Hold for three seconds, then return to starting position. Straighten legs and relax.



4.

Lie on your back with knees bent. Feet flat on the floor. Take a deep breath and relax. Draw one knee to chest. Then point leg upward as far as possible. Return to starting position. Relax. Repeat with alternate leg.

NOTE: This exercise is useful in stretching tight hamstring muscles, but is not recommended for patients with sciatic pain associated with a herniated disc.

5.



a. Lie on your stomach with hands clasp behind back. Pull shoulders back and down, pushing hands downward towards feet, pinching shoulder blades together, and lift head from floor. Take a deep breath. Hold for two seconds. Relax.

b. Stand erect. With one hand grasp the thumb of other hand behind the back, then pull downwards toward the floor; stand on toes and look at the ceiling while exerting the downward pull. Hold momentarily, then relax. Repeat 10 times at intervals of two hours during the working day. Take an exercise break instead a coffee break!

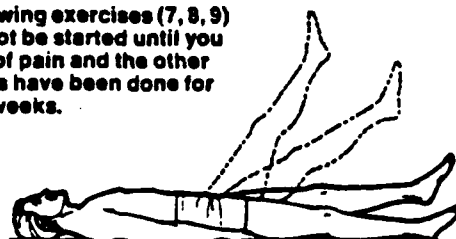


6. Stand with your back against doorway. Place heels four inches away from frame. Take a deep breath and relax. Press the small of your back against doorway. Tighten your stomach and buttock muscles, allowing your knees to bend slightly. This should cause the lower end of the pelvis to rotate

forward (as in Exercise 1). Press your neck up against doorway. Press both hands against opposite side of doorway and straighten both knees. Hold for two seconds. Relax.

The following exercises (7, 8, 9) should not be started until you are free of pain and the other exercises have been done for several weeks.

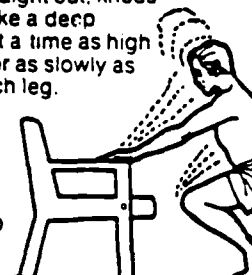
7.



Lie on your back with your legs straight out, knees unbent and arms at your sides. Take a deep breath and relax. Raise legs one at a time as high as is comfortable and lower to floor as slowly as possible. Repeat five times for each leg.

8.

May be done holding onto a chair or table. After squatting, flex head forward, bounce up and down two or three times, then assume erect position.



9.

Lie on your back with knees bent. Feet flat on floor. Take a deep breath and relax. Pull up to a sitting position keeping knees bent. Return to starting position. Relax. Having someone hold your feet down facilitates this exercise.



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THE NATIONAL GUARD BUREAU'S PERSPECTIVE ON  
BACK INJURY CONTROL

Lester Smith

It is my pleasure to have the opportunity to talk with you this afternoon about the National Guard and to share with you the action we have taken in an attempt to reduce compensation costs.

First, there are approximately 45,500 Army and Air National Guard technicians (federal employees) employed in the 50 States, Puerto Rico, Virgin Islands and the District of Columbia. By law, these technicians are required to be members of the National Guard as a condition of employment and should they lose membership in the National Guard for any reason, they are promptly terminated from technician employment. If otherwise eligible, they would be entitled to Civil Service Retirement benefits from the Office of Personnel Management.

In the area of workmen's compensation, we have been very concerned about the increasing cost of the program and the service provided by the various OWCP Regional Offices. During FY 85 the National Guard reimbursed the Department of Labor more than 13 million dollars for benefits paid technicians. In addition, we were frequently informed by our field activities that they were experiencing problems with the Department of Labor on the handling of compensation claims and excessive delays in commencement of compensation payments.

In an attempt to resolve some of these problems, our Support Personnel Management Office (SPMO) in Florida was authorized, on a one year test basis, the position of OWCP Compensation Specialist. This individual served as a single point of contact for all National Guard compensation cases in the Southeastern Region of OWCP, and provided a direct link with the Regional OWCP Office in Jacksonville.

As a result of this test and implementation of a light duty program, compensation cost for technicians in that region decreased by \$345,680 during fiscal chargeback year 1986 and due to the success of this test, that position has been made permanent and an additional six positions have been authorized to be collocated throughout the various OWCP Regional Offices.

## FORSCOM'S PERSPECTIVES ON BACK INJURY CONTROL

Michael Bledsoe

FORSCOM stands for Forces Command. FORSCOM contains all U.S. Army combat troops stationed in the continental United States. We have the guys who are ready to go to war, the 82nd Airborne Division, 101st, Second Armored Division, etc. Our mission is to be prepared to deploy and conduct successful land warfare anywhere in the world. It is key and essential that you understand that in relation to how we treat FECA claims. Our mission revolves around Army combat troops. People in Forces Command think in terms of Army combat troops, guns, tanks, attack helicopters, etc. Unlike AMC, where the civilian plays a big part in the mission, in Forces Command the civilian workforce lies on the periphery. While FORSCOM is the largest MACOM (Major Command) in the Army and we do have a lot of civilians, our primary thrust is toward preparing for combat. When we talk about safety in FORSCOM, our leaders automatically think in terms of system safety, i.e. do we need to ground all of our attack helicopters or major weapons systems.

Larris Marks is our civilian personnel representative for FECA claims for FORSCOM. Within Forces Command, 26 percent of all FECA claims that are submitted have to do with material handling and 24 percent of all FECA claims submitted are due to lower back injuries. A lot of the presentations have discussed reduction of dollar costs but our directive is a 3 percent reduction goal in the reduction of claims. When someone files a claim, we can get him back to work but it does not do anything for our Presidential-directed 3 percent reduction of claims because that claim is already filed. We have a mission of reducing actual claims. Keep in mind that in Forces Command, we are combat-ready soldiers; many fewer back injuries are experienced than in the military work force. We believe that is because combat-ready soldiers generally exercise more and are in better physical condition.

The military injuries are only reported on the DA 285 Accident Report. Our criteria for an injury is a day's lost time. When a FECA claim is filed, it is recorded. On the other hand, the military commander has no incentive to file an accident report. We believe we are getting only approximately 50 percent of the military accident reports.



How do we attack the back injury problem? Safety has what we call the three E's: education, engineering and enforcement. In terms of education, we stress individual training. In FORSCOM Supplement 1 to AR 385-10 it states that during the first 72 hours after being employed at a workplace an individual must receive a safety briefing by his supervisor. In that safety briefing material covering back injury prevention is included. Also, in individual sustaining-type training we have mandated quarterly safety committee meetings in routine safety training; not focusing strictly on back injuries, but on many safety issues (eye protection, industrial hygiene, etc.)

FORSCOM is very diverse, so we want anything we do from the MACOM level to leave enough room for the installation to tailor it to their specific needs. Fort Hood has two combat divisions, the first cavalry division and the second armored division with 63,000 troops. And we also have installations like Fort McCoy, Wisconsin, which has no troops; it is a post headquarters and exists only to support Army reserve units training there during the summer. Fort Sheridan in Chicago has no troops, only administrative headquarters. Every one who is in supervisor training for civilian people has to go through a 41-B course. A portion of that course is safety. A portion of the safety training is back injury prevention.

We attempted at one point for FORSCOM to have, in certain jobs requirements where the potential for back injury is greater, mandatory physical fitness training for civilians. The Comptroller General said that we could not pay a civilian for it, but if he wants to do it on his own time or during his lunch hour, that's great. But unless his job requires a certain level of physical fitness performance, you cannot require it.

Presently, we don't have surgeon training in these areas. It is a deficiency that is recognized. Right now, in FORSCOM the surgeon is not highly involved.

Safety and health professional training and information exchange - Within Forces Command we have an electronic brainstorming media, whose administrative offices are in the Pentagon, called FORUMNET, which is available to every one of you. Anyone can sign up and establish their own little brainstorming session. Perhaps we would want to do that for the back injury project. This eliminates problems getting someone on the telephone, long distance phone charges, and differences in time zones, and it records any ideas right there on the computer for everyone to see. It also gives you an electronic mailbox and an electronic bulletin board system. If someone here in AEHA wanted to put an idea for staffing out to everyone interested in the back injury prevention program (including

civilians and contractors, as there are on some of the other nets) you can put it up on the net; everybody looks at it once a day or twice a week and can give you a counter idea or counter proposals. Everybody on the net can see it at the same time. You don't have to do separate mailings or separate telephone calls. It is a super media. I have a computer at home hooked up to Telenet, which is a local access. I dial a local number in Atlanta and it hooks right up to the mainframe computer in Indiana. I start answering all the questions from the safety directors throughout Forces Command on anything they want to talk about. A good part of the discussion right now is concerned with FECA and back injury prevention.

There are committees, like the Army Committee to Organize Light Infantry Divisions, where people that are interested in light infantry divisions, civilians, military, and contractors are all hooked together in this network. You ought to read some of the traffic. There is no formality like sending a formal Army message. You can just say what you want or use what language you want within respectful limitations. It's an excellent media for brainstorming and encourages new ideas.

Engineering and ergonomics, the design of inherently safer or more productive workplaces - SASOHI, which stands for Standard Army Safety and Occupational Health Inspection, is a safety inspection. Every installation's safety staff is required by regulation to go out and inspect every workplace on the installation a minimum of once a year. They are doing everything they can to reduce back injuries.

There are also lifting devices that should be an inherent part of a back injury prevention program whether or not you believe lifting is a cause of back injuries. When I was a safety director at Fort Irwin, I went around to look at some workplaces. There was a guy with a stake bed truck, the bed of the truck comes up to about chest height. He had 55 gallon drums on the truck and he was taking time off by climbing up on the truck, rolling these full 55 gallon drums to the edge of the truck, getting off the truck, giving it a bear hug and scooting it until he got it down to the edge and letting it drop, while he controlled the fall and direction of the drop. There are mechanical drum handlers and hydraulic devices that can help lower the drums. There are ramps, drum handlers, hoists, wenchers and all types of mechanical devices that can be used in lieu of these manual techniques that can relieve the necessity of doing a lot of this lifting. If we educate the employees and supervisors on what devices are available and encourage them to procure the proper lifting devices and utilize them properly then the requirement to lift is no longer there and some of these back injuries will probably be prevented.

Finally, enforcement. Normally enforcement is some sort of a regulation or policy or control that is employed. Through pre-employment, we are encouraging people to look at the job descriptions. If the job requires lifting, then put it in the job description and in the skills, knowledge and abilities when the job is announced. If an individual knows he is got a history of back injuries, at least that gives him the opportunity to recognize a potential for back injury.

We have FORSCOM Supplement 1 to AR 385-10, which is our regulation that requires the safety briefings within 72 hours, the safety committees and training. We also have our own version of a light duty program. It is required that civilian employees injured on the job go through our military medical facility for medical screening. Currently, civilian employees that come in are not given priority to get in front of the family members and retired soldiers. I understand there is some relief on the way.

Without command emphasis you don't have a program. If the commander doesn't endorse the programs, safety advisors can stand up and waive red flags, but if you don't have something with some emphasis behind it and remind them every once in a while, you are not going to get anywhere. In my opinion, the real key to solving most safety problems is in getting to the systemic causes of the problems.

Too often I see pretty posters on the walls and flowery colored packets. I don't have high expectations of these things because we have thrown these at the people in our workplace until they are sick of seeing them. How many of you looked at the safety posters on the wall out here as you came in? They are pretty much the same format and right along the same design. I believe the effects of this approach, which is the traditional approach, is probably a Hawthorne effect. We have done that with so many different problems that it may not do a lot of permanent good.

If you can engineer, educate, and then write regulations to say that you have to do these things, you will have a pretty good program.

SECTION III. CONCLUSIONS

## Results of the Low Back Project Workshop

### Problem Definition, Discussions, and Recommended Program Elements

1. Problems. Compensation claims, costs and lost work time due to low back injury are unacceptably high to the Army. The measures listed above only partly estimate the great personal loss suffered by chronic low back disability patients.
  - a. Inappropriate expectations and attitudes about low back injuries exist in Department of Army personnel because of inadequate knowledge.
  - b. No program has been implemented successfully or widely in the Army to appropriately manage low back injury cases.
2. Discussion.
  - a. Education and Primary Prevention.
    - (1) The workplace and work practices. The design of the workplace and work practices may contribute to low back injuries. Further evaluation of this subject is needed. Many aggravators of low back injuries are recognized in the workplace and must be eliminated, if possible. Those that cannot be eliminated must be brought to the attention of workers and managers.
    - (2) Employees. Employees often lack an awareness about the natural course of low back pain, body mechanics to alleviate problems, and useful self-treatment techniques. Lack of trust in managers may make communications with supervisors about safety issues and early back problems difficult. Workers often fail to recognize how a prolonged disability from a back injury can adversely affect many of their relationships both at home and at work.
    - (3) Supervisors. Supervisors often fail to recognize that back complaints are real and require intervention. They often do not recognize work place aggravators.
    - (4) Personnel Offices. Personnel officers may not be sensitive to low back injury costs and intangible losses a worker suffers. Procedures may not be adequate to inform supervisors about FECA procedures, monitor costs and claims from local physicians, and encourage and enforce return to work programs.
    - (5) Health Care Providers. Many health care providers fail to recognize the need for a treatment protocol requiring activity (not rest) for low back pain patients. They fail to provide continuing and consistent monitoring of patients to bring out non-medical factors associated with the complaint and to recognize complications of chronic low back pain. They often do not use periodic exams as an opportunity to re-educate workers about

low back problems. They may not provide the significant amount of support and concern needed by most low back patients to alleviate fears and concerns. They may not recognize the significant need for cooperation by medical, supervisory, and personnel people with the patient to resolve low back problems.

- (6) Safety. Safety and Occupational Health personnel may not recognize work place aggravators of low back pain. They may be inadequately trained in human factors issues as related to low back complaints.

b. Patient Management and Prevention of Chronic Disability.

- (1) Early recognition is critical to early intervention and management of low back pain or injuries. This is the point where efforts to decrease claims must take place. The Department of Army policy must encourage employees to seek consultation within the Army system initially when symptoms of low back problems are experienced or following an incidence that may lead to low back problems.
- (2) Providing early support to the low back injured employee requires that early notification be provided to an individual or a group of individuals that have knowledge and resources to provide the necessary support and management. These resource personnel may include: health care providers, claims managers, personnel specialists, supervisors and managers, and safety specialists. The duties and some of the coordination responsibilities are spelled out in current regulations, however, there is no requirement that these resources coordinate regularly and jointly manage work related low back complaints. Because low back complaints can be very complex problems that can include medical, personnel and safety issues, prompt coordination for appropriate management is critical. A model program, such as the Watervliet Model, requires such a team approach and is currently recommended for use. This approach should be made a requirement for managing low back complaints. As a minimum, members of this team must provide the injured employee with education about the natural course and accepted treatments for low back pain; and information on: availability of care within DoD facilities, referral to private health care providers, benefits and claims, reporting policies, return to work policies and modified work programs, the back injury management and monitoring program, and information on available employee assistance programs.
- (3) Regular monitoring of the low back patients must be carried out by the resource personnel. As a team they should intervene with recommendations or requirements to the appropriate personnel or activity as required. Minimum responsibilities during this phase include regular contact with: the worker and his family, the supervisor, the health care provider, and contact with the claims processing personnel.
- (4) Return to work programs are mandatory for the management of low back injuries. These programs must be flexible to allow the work modification decisions to be made jointly by the worker, the supervisor, and the health care provider. These decisions must be reviewed and revised regularly. Appropriate, often minor, modifications to the worksite or operation must be supported by the management. Our goal must be to support the worker

and provide for an early return to the work place, and to return the employee back to his/her normal duties as quickly as recovery allows.

- (5) Tracking of the program results can be accomplished centrally without increasing the burdens of the local managers. Currently the Army Safety Center can extract data from the FECA tapes provided by the Department of Labor which can track the number of claims, time between the injury and filing a claim, number of lost time claims, and medical and compensation payments down to the MACOM level.
- (6) Local Command and management implementation and support is essential for the success of a low back program. In addition to Department of the Army emphasis, incentives should be developed. Methods to charge the costs of low back injuries down to the lowest level and then to pass back the savings to well managed programs should be investigated, developed and instituted.

### 3. Recommended Program Elements.

#### a. Education and Primary Prevention.

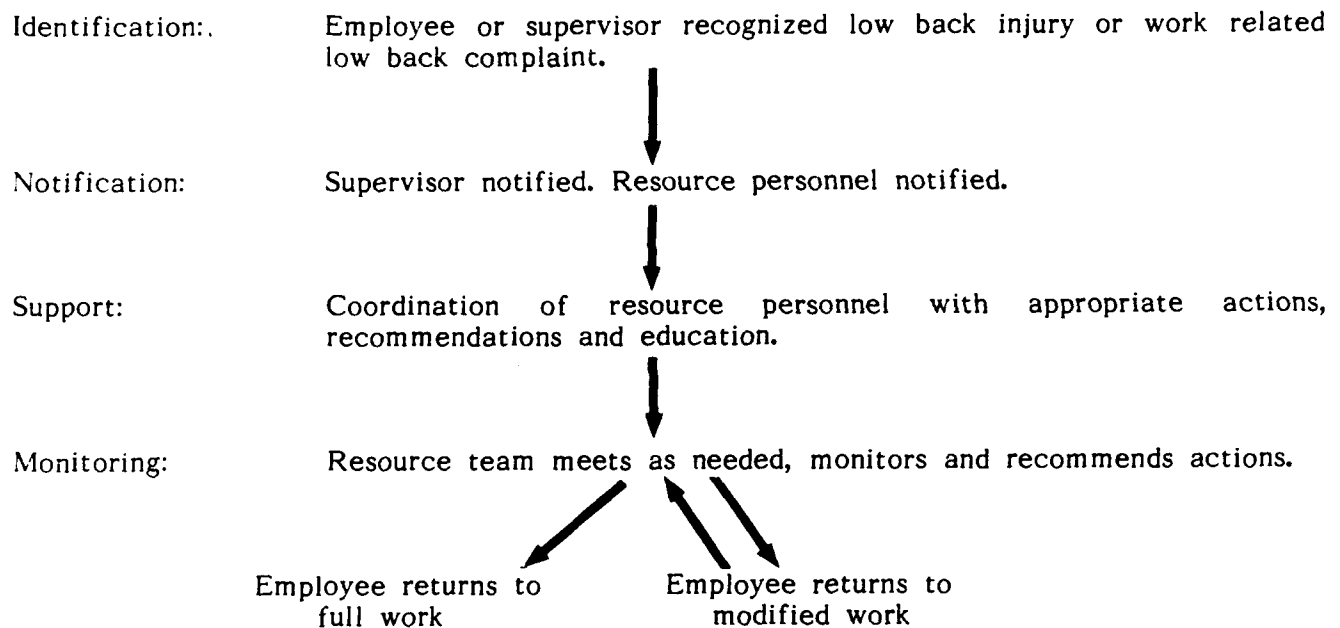
- (1) Begin an Army-wide awareness program to increase knowledge and change attitudes and expectations about low back injuries. (A) Start at top level management and work down. (B) Provide Army policy statements recognizing that low back complaints are real, that they must be managed carefully to prevent disability, that early return to work is good treatment and is the Army standard.
- (2) Educate supervisors and workers about the facts of low back pain, the costs, complications, treatments, and return to work programs.
- (3) Provide additional training tailored to the needs of health care providers both military and civilian, safety, industrial hygiene, union personnel, and civilian personnel officers in the subjects listed in paragraph two.
- (4) Target high risk populations with educational efforts.
- (5) Develop a model low back program at an installation which in turn can be the basis for other installation's low back programs.

#### b. Patient Management and Prevention of Chronic Disability. Low back pain patient management program must include as a minimum:

- (1) Early identification and reporting of low back complaints related to work.
- (2) Early support for the reality of the problem, for appropriate management both medically and administratively, and for early return to work.
- (3) Regular monitoring of the patients personal adjustment, work status, and medical condition and care.

- (4) An active effort to return the worker to his work place as soon as possible making minor changes in the job requirements that are needed temporarily to accommodate the worker and the mission.
- (5) Record keeping to track the results of the patient management program.
- (6) Local command implementation and support for a successful low back management program is essential.

#### FLOW OF LOW BACK PAIN MANAGEMENT



#### 4. Issues for further discussion.

- a. Evaluation of work place factors and aggravators for low back complaints is a complex new field. A working group with safety, health, and human factors experts should be established to develop Army policy.
- b. Evidence exists to support the contention that almost all low back complaints when carefully evaluated do not meet the criteria under FECA as occupationally related injuries but are due to recurrent trauma and would be classified as occupational illnesses. As an occupational illness payment of continuation of pay is not authorized. Just what effect this would have on the costs and disability from low back pain is unclear. This issue requires study by medical, safety and OWCP personnel.



- c. Evidence suggests that the compensation level is directly related to the amount of disability from low back pain. FECA compensation levels are relatively high. The effect of this high compensation level must be considered when the success of intervention programs are estimated.
- d. While the local resource people will provide some quality assurance and monitoring of medical care, judgments on complex medical issues will be beyond most local capabilities. Indeed, the Army probably does not have available, expert resources to monitor the care provided by the many local physicians caring for our back patients. Department of Labor, OWCP has tackled this problem by contracting with Health Care Systems (HCS) to provide expert monitoring of patient care for back and neck injuries. Their system has had success in reducing COP and medical costs and is being applied to DA personnel in two OWCP districts. The Army should support this effort by helping with early identification of patients so monitoring can be made more effective. As the program successes are documented we should encourage implementation throughout OWCP to cover all DA personnel in CONUS. We should consider contracting with HCS to monitor back patients treated by DA facilities.
- e. Before and during program implementation measures of the low back problem and program outcomes must be made. The Army safety center has the data and the capability to report quarterly on the number of new back claims, the percent of lost time claims, the medical and compensation costs, and delay in filing of claims. They could develop accepted indexes such as cost per case, or cost per employee. The Finance and Accounting office has the capability of reporting continuation of pay aggregate costs. These agencies and the Civilian Personnel Center should develop a recurrent monitoring report to evaluate the success of programs and policies implemented to decrease claims, costs, and lost time from low back injuries.

**SECTION IV. BIOGRAPHICAL SKETCHES**

ROBERT A. BECKER has been a civilian with the Army for the past 23 years primarily in the staffing and employment areas. He is presently the Chief of Field Operations and Support Directorate for CIVPERCEN. He has been involved in FECA resources and programs for 1 year. Mr. Becker has outlined a brief summation of what resources are devoted to the FECA program from civilian personnel standpoint, and what programs or initiatives are currently underway to improve the program.

RICHARD A. BERGER is a Manager in Quality Assurance and Product Safety for the Dennison Manufacturing Company. He also worked as a corporate manager in Plant and Environmental Safety for Dennison. Mr. Berger is a professional member of the American Society of Safety Engineers and a Certified Safety Professional. He has been in environmental and safety management since 1970.

MICHAEL D. BLEDSOE is currently a safety manager for systems safety, tactical safety and occupational safety and health at Headquarters, FORSCOM. He has developed and implemented safety and occupational health programs for Forts Ord and Irwin and is currently developing a FECA claims reduction program for FORSCOM. He is a member of the American Society of Safety Engineers and the World Safety Organization. He is a Certified Safety Executive, an Army Reserve Aviator and an Aviation Safety Officer. Mr. Bledsoe's report outlines current and proposed measures for back injury reduction within FORSCOM.

RON BUTTRY is a Personnel Management Specialist at Headquarters, U.S. Army Materiel Command (AMC). He has 20 years experience as a Civilian Personnel Administrator and 3 years as a FECA Program Manager. Mr. Buttry has provided an overview of the AMC FECA program.

HENRY L. FEFFER, MD is the Emeritis Professor of Orthopedics at the George Washington University and the Director of Medical Research for Health Care Services. He has performed over 30 years of low back research and has spent over 20 years in private orthopaedic practice. Dr. Feffer is respected for his contribution in helping to bring the management of low back problems out of the dark ages. Additionally, for the last 2 years, Dr. Feffer has acted as a business consultant monitoring the progress of low back pain management.

SANDRA FITZLER, R.N. is the Coordinator of Occupational Health Services for the Centennial Health Center, which is an occupational health center developed by the Beverly Hospital, Beverly, Massachusetts. Ms. Fitzler was one of the principle developers of the "Chelsea Back Program" and has published numerous articles pertaining to low back pain and the psychological efforts associated with injury disability. She has been in the occupational health field since 1979.

ROSALENE GRAHAM has been a safety specialist for the past 10 years. She is currently developing prevention programs in the area of maintenance and accident prevention for the U.S. Army Safety Center. Mrs. Graham has provided information concerning what data is available within the U.S. Army Safety Center computer to track the progress of any policies or programs which may be instituted.

ROBERT H. JONES, MD has been working with Eastman Kodak as a Corporate Rehabilitation Consultant for over 20 years. He has established rehabilitation guidelines for the industry in the areas of low back pain. His studies also include hypertension in the workplace, cardiovascular stresses, and fire fighters.

LTC DOUGLAS A. KERSEY has been a strong proponent of postural awareness to musculoskeletal stresses for the past 11 years. He has been on active duty with the Army for the past 20 years and a physical therapist for the past 22 years. Since 1982, LTC Kersey has been the Fitness Facilitator at Fort Knox, Kentucky and is currently the Chief of Physical Therapy at the Ireland Army Community Hospital. He also has presented "The Real Low Down on the Back" to a safety directors' conference in Louisville, Kentucky and to a National Guard safety conference in Little Rock, Arkansas. This experience, coupled with the last 31 years as a competitive distance runner, has given LTC Kersey a unique ability to communicate an educational program that can be presented to all DoD employees to enhance their personal awareness as to why they may be experiencing various aches and pains and what is necessary to correct the situation.

RICHARD LARSON is the Chief of Regulations, Policies, and Procedures for Federal Employees Compensation of the U.S. Department of Labor. Mr. Larson spent 15 years with the Office of Workers' Compensation, 4 years as District Director of Special Claims and 5 years as Chief Policy Advisor.

LTC ROBERT PETZOLD is an Army Occupational Medicine physician with 15 years active service, 11 as a medical officer. He is Co-Director of the Army's Occupational Medicine Residency Program. He is board certified in both family practice and occupational medicine. His interest in preventing the devastating effects of chronic low back pain began as a clinical practitioner and flight surgeon and continued as a residency research project. He has been tasked as the project officer for the Army's Low Back Project Workshop.

DICKON POWNALL GRAY is the Executive Vice President of Health Care Systems. He holds a Masters degree in Business Administration from the London Business School and spent 2 years as a senior consultant with Bain & Co., the premier strategic consulting company to the Fortune 100 companies. Mr. Pownall-Gray is also the founder of a glass engraving company in northern Ireland which went from venture capital state to being sold for \$2 million.

LT WILLIAM S. QUILLEN is the Physical Therapy Programs Officer for the Health and Physical Readiness Department of the U.S. Navy. He has been a physical therapist in the Navy Medical Service Corps for the last 10 years and is a project officer for the "Healthy Backs" program. LT Quillen has obtained his Masters degree in Health Services Management and is also a doctoral student at the University of Virginia.

LESTER SMITH has been an Employee Relations Specialist with the National Guard Bureau for the past 14 years. He is presently a member of the Maryland Army National Guard and has completed the Personnel Management for Executives and Command and General Staff and the Equal Opportunity Management programs. Mr. Smith has provided insight on the organization of the National Guard and the efforts being made to cut compensation costs for the civilian workforce.

MAJOR ROBERT WRINKLE has spent the last 20 years in the military with the past 7 years as a unit safety officer in both ground and aviation safety. For the last 2 years, he has been the Chief, Installation Safety Branch at the U.S. Army Safety Center. MAJ Wrinkle holds a Bachelors degree in Business Administration, a Masters degree in Management, and a M.S. degree in Aeronautical Science. He discusses the Army's safety community's past efforts to reduce back injury accidents.

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